EVALUATE THE EFFECTIVENESS OF JACOBSON'S PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON LEVEL OF ANXIETY AMONG PREOPERATIVE MOTHERS UNDERGOING ELECTIVE LSCS IN SELECTED HOSPITALS AT MADURAI.

BY

JEBHA.D

A dissertation submitted to the Tamil Nadu DR. M. G. R medical university,

Chennai.

In partial fulfillment of the requirements for the degree of Master of Science in

Obstetric and Gynecological Nursing

UNDER THE GUIDANCE OF

PROF. (MRS). P.SHANTHI , M.Sc (N).,

H.O.D of Obstetric and Gynecological Nursing Department,

C.S.I. JeyarajAnnapackiam College Of Nursing,

Madurai-4

April - 2014

CERTIFICATE

This is to certify that the dissertation entitled "**evaluate the effectiveness of Jacobson's progressive muscle relaxation technique on level of anxiety among preoperative mothers undergoing elective LSCS in selected hospitals at Madurai"** is a bonafide work done by **JEBHA.D** , C.S.I. Jeyaraj Annapackiam College of Nursing, Madurai, submitted in partial fulfillment for the degree of Master of Science in Nursing.

Signature of the Principal _____

Prof. Dr. (Mrs). C. JOTHI SOPHIA M.Sc (N).,Ph.D.,

College Seal _____

AN EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF JACOBSON'S PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON LEVEL OF ANXIETY AMONG PREOPERATIVE MOTHERS UNDERGOING ELECTIVE LSCS IN SELECTED HOSPITALS AT MADURAI.

Approved by the dissertation committee on …….

RESEARCH CO-ORDINATOR ……

PROF. DR. (MRS.). C. JOTHI SOPHIA M.Sc (N)., Ph.D.,
PRINCIPAL,
C.S.I. JeyarajAnnapackiam College ofNursing,
Madurai- 625004

RESEARCH GUIDE ……..

PROF. (MRS). P.SHANTHI M.Sc (N).,
H.O.D OF OBSTETRIC AND GYNECOLOGICAL NURSING DEPARTMENT,
C.S.I. JeyarajAnnapackiam College of Nursing,
Madurai- 625004.

MEDICAL GUIDE …….

DR. MALAR KODI M.B.B.S.,D.G.O.,
OBSTETRICS AND GYNECOLOGY
Christian Mission Hospital
Madurai – 1.

A dissertation submitted to

The Tamil Nadu Dr. M. G. R. Medical University, Chennai.

In partial fulfillment of the requirements for the degree of

Master of Science in Nursing

April - 2014

CERTIFICATE BY THE EXAMINERS

This is to certify that the dissertation entitled "**evaluate the effectiveness of Jacobson's progressive muscle relaxation technique on level of anxiety among preoperative mothers undergoing elective LSCS in selected hospitals at Madurai** is a bonafide work done by **JEBHA.D**, C.S.I. Jeyaraj Annapackiam College of Nursing , Madurai, submitted in partial fulfillment for the degree of Master of Science in Nursing from the Tamil Nadu Dr.M.G.R. Medical University, Chennai.

Signature of the Examiners:

1.External:_____ **2. Internal: _____**

Date: **Date:**

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"All things are possible with God"

- **Mark 10 : 27**

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ABSTRACT

Anxiety is normal to any surgical procedures. Women experiences anxiety way feel uneasy and apprehension and may have vague sense of dread. Progressive muscle relaxation is a anxiety management technique that allows us to recognize and relieve this tension by contracting and then relaxing specific muscle groups in a systematic way.

The objectives of the study was to assess the level of anxiety in experimental and control group and to evaluate the effectiveness of progressive muscle relaxation technique on anxiety in experimental group

The conceptual framework for this study was based on Roy's Adaptation model.

METHODOLOGY

Quasi – experimental pre test post test control group design was adopted for this study.

RESULTS

- Majority of elective LSCS mothers in both the groups in experimental 13 (43%) and control group 16 (53.3%) were between 20 – 30 years of age, experimental 11 (36.7%) and control group 10 (33%) only were degree holders, experimental 13 (43%) and control group 19 (63%) were house wife, in experimental 18 (60%) were belongs to single family and control group 20 (66.7%) were belongs to joint family, in experimental 12 (40%) were belongs to availability of mother and control group 11 (36.7%) were belongs to

availability of all, experimental 20 (66.7%) and control group 16 (53%) were had no previous history of surgery

- On subjective scale the experimental group pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 27 (90%) had mild level of anxiety and 3 (10%) had moderate level of anxiety and none of them had severe level of anxiety.
- In control group the pre test shows 7 (23%) had moderate level of anxiety and 23 (76.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety.
- On objective scale the experimental group pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 20 (66.7%) no anxiety 6 (20%) had mild level of anxiety and 4 (13%) had moderate level of anxiety and none of them had severe level of anxiety.
- In control group the pre test shows, 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety.
- On subjective scale the experimental group mean percentage pretest score 53.3 (SD = 7.8) the mean percentage post test score 45.7 (SD = 5.3) and the mean difference is 7.6. In control group the mean percentage pretest score 82.5 (SD = 8.5) the mean percentage post test score 81.3 (SD = 9.9) and the mean

difference is 1.3. The mean difference in percentage was higher in experimental group (7.6%) than control group (1.3%)

- On objective scale the experimental group mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 0.007 (SD = 0.7) and the mean difference is 3. In control group the mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 2.7 (SD = 0.5) and the mean difference is 0.03. The mean difference in percentage was higher in experimental group (3%) than control group (0.03%)
- On subjective scale the experimental group mean pre test score 66.6 (53.3%) the mean post test score 36.6 (45.7%) and the mean difference is7.6. The "t" value was 15.6 which showed a statistical significant at $p < 0.001$ level. In control group the mean pretest score 66 (82.5%) the mean post test score 65 (81.3%) and the mean difference is 1.3. The "t" value was 0.6 which showed not statistically significant at $p < 0.001$ level.
- On objective scale the experimental group mean pretest score 2.7 (3%) the mean post test score 0.007 (0.007%) and the mean difference is 3. The "t" value was 13.4 which showed a statistical significant at $p < 0.001$ level. In control group the mean pretest score 3 (3%) the mean post test score 2.7 (3%) and the mean difference is 0.03. The "t" value was 0.6 which showed not statistically significant at $p < 0.001$ level.
- On subjective scale the Un paired t" test shows the mean post test score of experimental group 36.6 (45.7%) was less than the control group mean post test score 65 (81.3%). The mean difference is 35.6. The obtained "t" value was 14.9 which showed s statistical significance at $p <0.001$ level.

- On objective scale the Un paired t" test shows the mean post test score of experimental group 0.007 (0.007%) was less than the control group mean post test score 2.7 (3%). The mean difference is 3. The obtained "t" value was 19 which showed statistical significance at p <0.001 level.
- On subjective scale the chi-square test revealed that there was no significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, family status, availability of sub standers and history of previous surgery except occupational status in experimental group at p< 0.05 level.
- The chi-square test revealed that there was no significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery except availability of sub standers in control group at p< 0.05 level
- On objective scale the chi-square test revealed that there was no significant association between the post test level of anxiety with selected demographic variables such as educational status, occupation, availability of sub standers and history of previous surgery except age and family status in experimental group at p< 0.05 level.
- The chi-square test revealed that there was no significant association between the post test level of anxiety with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery, availability of sub standers in control group at p< 0.05 level.

Conclusion

The results revealed that there was a significant difference in the level of anxiety among elective LSCS mothers after practicing progressive muscle relaxation technique in experimental group. The researcher conclude that, the pre operative mothers need continuous and different types of relaxation technique to reduce their level of anxiety.

RECOMMENDATIONS

- The same study can be conducted as a comparative study to assess their level of anxiety among elective LSCS mothers and emergency LSCS mothers.
- The same study can be conducted as a descriptive study to find out the relationship between type of surgery and level of anxiety among mothers.

CHAPTER: I

INTRODUCTION

"The first requirement of the hospital is that, It should do the sick no harm"

SIGNIFICANCE OF THE STUDY

Today caesarean section is not performed as a last reset, but as a safe alternative to risky vaginal deliveries. Some women welcome the caesarean section as means of escaping the rigors of labour. Others feel disappointed that they have not had the experience of a normal delivery and have not enjoyed the accompanying sense of achievement.

Different women requires different levels of information. While some feel reassured by a detailed description of what is to happen, others find it distressing and prefer to learn everything in hands of professionals.

An elective caesarean is one which is performed before the onset of labor or before the occurrence of any complications which calls for an emergency intervention.

The nurse must be sensitive in her dealings with women who are getting ready for caesarean section. Anxiety is normal to any surgical procedures. Women experiences anxiety way feel uneasy and apprehension and may have vague sense of dread. Feeling of helplessness and inadequacy may be present along with a sense of alienation and insecurity. The insecurity of these feelings may be mild to severe

enough to cause pain and intensity may decrease depending upon the coping measures given to the individual.

“ My body’s overrun; Hormones racing from my glands;

Must release it; let it out; how to do”

(Sharon, 1996)

Anxiety … a universal human response to stress. It is a term which describes normal feelings people experience when faced with threat or danger. It is a diffuse, highly unpleasant and often a vague feeling of apprehension in the mind, which is like a worm that eats into the vitals of ones personality.

(selye, 1985)

“**Anxiety weighs down human heart” (proverbs 12:25)**

Anxiety is a common emotional feeling in everyone’s life. It is a universal human experience, Auden (1987 cited by Nambi 1998) called the modern era the age of Anxiety. The current conflicts in civilization which lead to urbanization and industrialization and the rapid changes in our environment all pave the way for more anxiety prone situation. It begins early in life as soon as an individual is capable of realizing that something could go wrong, Responses to anxiety grow and evolve with the individual behavioral reactions to anxiety change as effective actions are added to the present coping mechanisms. Those responses or behavior that are ineffective or serve no purpose are discarded as useless, understanding of how individuals are other health care providers plan and implement individualized care for all patients experiencing anxiety is vital for effective care.

Anxiety

Definition

i) According to Gail (1987) anxiety is a diffuse apprehension, vague in nature and associated with feelings of uncertainty and helplessness an emotion without a specific object, subjectively experienced by the individual and communicated interpersonally.

ii) According to Louise (1983) Anxiety can be defined as a diffuse, highly unpleasant, often vague feeling of apprehension, uneasiness, uncertainty and helplessness accompanied by one or more bodily sensations such as empty feeling in the stomach, tightness in the chest, heaviness of the head, palpitations ect.. There is usually anticipation of danger. Anxiety is vague and objectless in contrast to fear which is the emotional response to consciously recognized specific and often external threat to danger.

iii) According to Elaine (1985) Anxiety is a vague uneasy feeling of discomfort. It is a term used to describe reaction to stress, when the source is believed to be threatening but is not obvious. The source of anxiety is usually with in the persons internal environment. Anxiety is different from fear in that fear is the reaction to a known and usually external threat. Everyone experiences anxiety at some point in their lives. In fact some anxiety is necessary, without it people would be apathic and disinterested in their surroundings.

Disease and death represent an extreme emotional stress for today's human beings who find it difficult to assess their significance. Against this background we must view human fear and anxiety before surgery. Now a days people have lost the

ability of dealing with themselves and their problems. It is an extreme challenge for any human being to remain physiologically stable.

Fear differ from anxiety in that it is a body's physiologic and emotional response to a known or recognized danger. A person whose car stalls on the rail road crossing experiences fear of injury or death, while the train rapidly approaches on the track, the person experiences anxiety. The person who undergoes any exploratory surgery may be afraid of the surgery and develop symptoms of anxiety because the patient is uncertain of what the outcome will be.

Causes of anxiety

Kalman (1983) states that anxiety producing situations are not the same for all people. A situation that is unimportant to one person may cause anxiety to another. A situation that is seen as a challenge to one person may cause panic in another person.

A patient may become anxious if he lacks information about his symptoms or illness, while anticipating painful procedures or waiting for test results or when he receives a new or unexpected diagnosis with poor prognosis or when he is unable to pay his medical bills or has unresolved family crisis. These are enough to make most patients anxious.

Stages of anxiety

When a patient is anxious he may have a rapid pulse rate, increased respiration and blood pressure, peripheral vasoconstriction and dryness of mouth. Some patients may appear cool, calm and self contained but are still anxious others become angry, aggressive, make threats or refuse to cooperate.

Dossey (1996) describes anxiety level as

Mild: Causes an increase in alertness and perceptiveness.

Moderate: Results in selective in attention, causing the patient to focus on only one thing at a time.

Severe: Results in a tendency to focus on small irrelevant things. In this stage, the patient cannot communicate intelligently and his behavior may be disorganized.

Panic: Is an unexpected attack of intense fear symptoms of panic are more severe than those of anxiety.

Symptoms of anxiety

Subjective

Increased muscle tension, tight breathing, a sense of impending doom, difficulty, falling asleep, tingling in hands and feet, a continuous feeling of apprehension, butterflies in the stomach, concern about changes in healthy changes and illness outcome and restlessness.

Objective

A wrinkled brow and strained facial expression, sweaty palms, speech-pattern changes, interrupted sleep pattern, tachypnea and tachycardia, psychomotor agitation, easily startled, restlessness and jittery, meaningless gestures, hyper vigilance (scans environment) and spells of crying.

"Relaxation exercise an antidote for stress" (Benson, 1975)

Progressive muscle relaxation

Progressive muscle relaxation is a systematic technique for achieving a deep state of relaxation. It was developed by Dr. Edmund Jacobson discovered that a muscle could be relaxed by first tensing it for a few seconds and then releasing it. Tensing and relaxing various muscle groups throughout the body produces a deep state of relaxation, which Dr. Jacobson found capable of relieving a variety of conditions, from high blood pressure to ulcerative colitis.

In his original book, progressive relaxation, Dr. Jacobson developed a series of 200 different muscle relaxation exercises and a training program that took months to complete. More recently the system has been abbreviated to 15-20 basic exercises, which have been found to be more effective.

Maninder kaur (2008) stated that now a days there are various psychological methods of anxiety relieves are available that are breathing exercises, relaxation technique, biofeedback and hypnotism etc… Among this progressive muscle relaxation technique had been found to be effective and interesting one. Progressive muscle relaxation technique is becoming an increasingly popular form of complementary medicine and had been shown to be particularly helpful to alleviate stress, anxiety and pain in stressful environment.

"Take rest, relax, A field that has rested gives a thoughtful crop" - Ovid

NEED FOR THE STUDY

The incidence of caesarean section is steadily rising. The basic purpose of caesarean section is to preserve the life of the mother and child. Any surgical procedure is followed by some type of emotional reaction. It may be obvious, hidden, normal or abnormal reactions in a mother posted for caesarean section. She may view the surgery as a threat to her life.

Bhaskin S K et al (2007) conducted a cross sectional study to find out the prevalence of caesarean section rate in East Delhi. Data collected from 30 medical colleges by using semi open ended Performa. Results revealed that among 200 deliveries 144 were caesarean remaining were vaginal deliveries. In that 54.9% were emergency caesarean and 45% were elective caesarean.

According to WHO 32.6% of caesarean section has been documented from Chennai.

Lyn Clark callister (2008) stated that the overall rate of caesarean ranges from 2.9% in sub-saharan Africa to 26.3% in south East Asia. Caesarean birth rate is 80% in Brazil. Elective caesarean is high in Latin America at a rate of 80% in the world.

Heinz Walter (2000) stated that few patients anticipate surgery with out some degree of anxiety. Anxiety will vary from patient to patient but in general it will arise from fear of pain, fear of anesthetics, worries about family dependents and coping mechanisms needed to facilitate hospital admission.

For some patients it will always be seen as frightening a journey in to the unknown and physiological changes may take place such as raise in heart rate as a response to the stressful situation. This is more marked if the stress is prolonged, the

term surgery itself makes a person to have fear and anxiety. So imagine if the same becomes the reality, then the patient suffers even more.

It is known that troubled mind directly influences the functioning of the body. Therefore it is imperative to identify the anxiety that the mother is experiencing. Nurses have the responsibility to promote and teach coping abilities and use of relaxation techniques to the mothers to reduce their anxiety.

The stress of impending operation will begin to grow in the patients mind. Patients may experience psychological changes as a response to stress, if such patients are managed effectively and sensitively. Their stress and anxiety can be minimized by systematic preparation.

Waiting in a holding area until medical personnel come to take you to surgery can be a very stressful time. Anyone who has undergone surgery or who has watched a family member as he or she prepares to undergo surgery knows the anxiety one feels when facing the unknown realm of the operating room. This feeling of anxiety has many contributing factors such as fear of pain, fear of the outcome and loss of control over ones own body.

This acted as the inspiration for the researcher to conduct a study on the effectiveness of progressive muscle relaxation therapy in reducing the pre-operative anxiety of elective LSCS mothers.

Statement of the problem

An experimental study to evaluate the effectiveness of Jacobson's progressive muscle relaxation technique on level of anxiety among preoperative mothers undergoing elective LSCS in selected hospitals at Madurai.

Objectives

- ❖ To assess the level of anxiety in experimental group and control group.
- ❖ To evaluate the effectiveness of progressive muscle relaxation technique on anxiety in experimental group.
- ❖ To find the difference between experimental group and control group before and after therapy.
- ❖ To find the association between the level of pre operative anxiety with their selected demographic variables.

Hypotheses

H1 : Their will be a significant difference between experimental and control group

H2 : The mean post test anxiety score will be significantly less than the pre test anxiety score of elective LSCS mothers who had progressive muscle relaxation therapy

H3 : There will be a significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables.

Assumptions

- Patients undergoing major surgeries will experience various degrees of anxiety
- It is possible to reduce anxiety by progressive muscle relaxation therapy

Delimitations

- Mothers admitted the day before surgery
- Mothers posted for elective LSCS
- Mothers who had no hearing problem

Operational definition:

Effect

Effect refers to the positive outcome of progressive muscle relaxation therapy in respect to changes seen with the level of anxiety which was assessed by Spielberg's state anxiety scale.

Progressive muscle relaxation

Progressive muscle relaxation refers to isometric contraction and relaxation of group of muscles in a sequence in order to relieve muscular tension and promote relaxation as given by Jacobson, 1963.

Anxiety level

Anxiety level refers to the responses that the whole body undergoes to a specific stressor related to physiological, psychological and behavioral responses which was assessed by Spielberg's state anxiety scale.

Pre operative period

Pre operative period refers to the 48 hours period before surgery ie, from the time of admission till the time of patient goes for surgery.

Projected outcome

1. If proved effective progressive muscle relaxation therapy can be included as an important nursing implementation in the care of surgical patients
2. Patients satisfaction will be enhanced because anxiety during pre operative period will be decreased
3. Gives scope for future study which could be done on a larger population
4. If statistically significant this would add to the existing body of knowledge

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an important step in the development of any research project. It helps the researcher to understand the problem in a better manner, to identify the research gaps and render proper justification to the proposed research. This will help to understand the linkages and types of work done so far and therapy one can ensure that proposed research is not redundant. The review of literature helped the researcher in gaping insight into the problem area in designing and conducting the study.

Literature relevant to this study were reviewed and have been organized in the following sequence.

Section A: Studies related to pre operative anxiety

Section B: Studies related to anxiety and its response

Section C: Studies related to effectiveness of progressive muscle relaxation technique

STUDIES RELATED TO PRE OPERATIVE ANXIETY:

Eloise Carr., et al. (2006) conducted a descriptive study to identify the patterns and frequency of anxiety among women undergoing planned gynecological surgery. Anxiety was assessed by using state trait anxiety inventory, post operative pain was assessed by visual analogue scale. Results revealed that state anxiety steadily from the night before surgery, prior to anesthesia. Elevated levels of anxiety were associated with increased levels of post operative pain.

Wyatt SS. (2001) conducted a descriptive study on anxiety in patients undergoing Elective caesarean section under regional anesthesia, anxiety was assessed by using self reported anxiety score and a physiologic evaluation in the form of skin conductance measurements. Results revealed that high pre operative anxiety levels although the cause of their pre operative anxiety was not determined.

Wiens. (1998) conducted a descriptive study on pre operative anxiety in women, result revealed that general surgery patients experience high levels of anxiety compared to patients scheduled for anesthetic surgery. Studies demonstrated that patients who had experienced previous surgery or anesthesia either had no significant difference in anxiety level or were significantly less anxious. Primary concerns among patients found in the literature review were the success of the surgery, the thought of surgery, fear of pain, fear of not being asleep during surgery, waiting for surgery, activity limitations and being away from home.

Hardy. (1993) states that it is recognized that pre operative anxiety can have adverse effects on the course and outcome of surgery and there is a considerable amount of research into the influences of interventions for preoperative anxiety on a number of post operative variables. A sample of 21 patients about to undergo anesthesia for day care surgery were randomly assigned. It was found that the relaxation treatment significantly reduced preoperative anxiety as measured by the scale of the state Trait Anxiety Inventory (spiebergor, 1983). Following recovery, the relaxation subjects reported more favourable perceptions of their treatment than the control subjects.

O Hara. (1989) states that Invasive medical and surgical procedures can be extremely distressing to people and adversely affect their ability to cope, even when

the actual procedures are not a real threat in a medical or biological sense. A patients anxious reaction to undergoing surgical invasive procedures is one major factor which affects pre and post operative adjustment. Simpson and Kellett (1987) discussed two theories of patient anxiety which state that preoperative anxiety is directly related to post operative period. Jains (1985) model holds that either no anxiety or excessive anxiety prior to surgery both lead to poor post operative adjustment whereas, Leventhals theory argues that any pre operative anxiety is harmful.

Robins. (1987) found that children who were prepared for orthopaedic surgery using a great number of coping techniques before surgery experienced less anxiety and with drawal after surgery. Pick, pearce and legg (1990) found that patient who used positive cognitive coping strategies experienced less intense early postoperative pain. Linn and Klimas (1988) found that patients experiencing more stress before surgery were susceptible to poorer surgical outcomes and to infectious diseases because of a suppressed immune function due to anxiety. They suggested the reduction of this anxiety is likely to result in an cellular immune function and better post surgical recovery.

Wells. (1982) has done a study to find out the effect of relaxation on post operative muscle tension and pain. An experimental design was used to determine abdominal muscle tension, self report pain and distress in adult cholecystectomy patients. Six patients received relaxation training and six patients served as a control group, received standard pre operative instruction. Results showed that the distress in relation to insomnia was lower for patients who learned the relaxation technique.

Graham and Conley. (1971) conducted a comparative study on adult surgical patients in order to determine whether or not some common signs and behaviours of

anxiety could be observed in patients preoperatively and whether they were present post operatively. They also made an attempt to find out the factors which are associated with a higher level of anxiety of the 70 patients, none had lower pulse rate post operatively than pre operatively and 25 had pulse rates of at least 10 points over pre operative pulse rate. Thirty six patients had post operative systolic pressures lower than those recorded preoperatively (10 mm Hg or more) and six had post operative systolic pressures of 10 mm Hg or more, higher than recorded pre operatively. Relatively low proportions of the 70 patients manifested the other selected signs of anxiety pre operatively. Findings revealed that patients facing major surgery manifested many of the behaviors and signs commonly believed to represent anxiety and fear and a high proportion of these patients manifested these behavioral signs about the same degree postoperatively. They concluded by saying that the most useful and frequently occurring indicators of anxiety or fear were the subjective responses of the patients during pre operative and post operative visits.

STUDIES RELATED TO ANXIETY AND ITS RESPONSES

Brull. (2002) examined 38 random adult patients undergoing elective hip or knee arthoplasty. Pre operatively patients completed the hospital anxiety depression scale which screens for anxiety and depression and provides a measure of severity for each disorders. On the fourth post operative day patients completed the quality of recovery score which yields a measure of post operative health status including emotional state, physical independence and pain. Bivariate correlations between pre operative variables (anxiety and depression) and post operative outcomes were evaluated with two tailed rest of significance between increased anxiety and reduced quality of recovery demonstrated a significant correlation for all patients in aggregate

(r= -0.505; p= 0.001) and a significant correlation for each sub group of patients analysed.

Lin. (1994) studied the effects of background stress and anxiety on both short and long term recovery in 30 healthy patients undergoing general anesthesia for day care dental eztractions. Correlation coefficients revealed that the level of background stress in the preceding 6 months correlated with physical parameters of recovery such as time taken for patients to open their eyes, perceived pain and increased post operative morbidity. The study also demonstrated that high levels of state anxiety after surgery correlated with post operative pain.

Cleane M. C. (1990) studied 247 patients who had general anesthesia for dental procedures the incidence of individual anxieties was noted using a questionnaire completed by the patient. The most common anxieties related to the period before transfer to the operating theatre, intra- operative awareness and post-operative pain. These anxieties were present in over half the patients questioned. The follow-up questionnaire was completed by 207 patients in order to indicate, which anxieties they would expect to have, if they needed anesthesia in the future. All anxieties were less frequent than found before operation.

Badner. (1990) determined whether there is a correlation between anxiety the night before surgery and that existing immediately pre operatively. It was found that anxiety remain constant from the afternoon before surgery to the immediate pre operative period.

Johnson. (1980) examined the natural course of anxiety before and after surgery using the state-trait anxiety inventory in 4 studies involving 136 surgical patients. The results suggested that high level of anxiety were experienced before

admission to hospital, between admission and surgery and following surgery, and were not restricted to the immediate pre-operative period. Only a small percentage of patients reached their maximum level of anxiety on the morning of surgery. These results have implications for those planning interventions to alleviate anxiety associated with surgery.

STUDIES RELATED TO EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUE

Dehdarit, Heidarinia A. (2009) conducted a study, Effects of progressive muscle relaxation training on quality of life in anxious patients after coronary artery bypass surgery. He conducted experimental study. The sample included 110 anxious patients referred to the cardiac rehabilitation clinic of Tehran Heart center, Tehran, Iran during six weeks after coronary Artery Bypass Graft (CABG). Patients were allocated to receive both exercise training and life style education plus relaxation therapy (relaxation group; n=55) or only exercise training beside lifestyle education (control group or the recipient of usual care group; n=55) D significant reductions in state anxiety A ($p<0.01$) and trait anxiety ($p<0.01$) levels were observed in relaxation group after intervention compared to control group. Women had high state anxiety and a low quality of life than men in the two group before intervention, after intervention there was no difference between men and women in the relaxation group.

Agee D., et al. (2009) conducted a study to compare a five- week mindfulness meditation (MM) course to a five week course that taught progressive muscle relaxation (PMR). Fourty- three adults from the community were randomly assigned to either MM (n=19) or PMR (n= 24). Mindfulness meditation participants practiced meditation significantly more often than PMR participants practiced relaxation during

the intervention period. Although there were no differences between groups on any of the primary outcome measures, across both treatment conditions there were statistically significant reductions from pretreatment to post treatment in general psychological distress.

Archana khanna., et al. (2007) a study to compare the effectiveness of GSR biofeedback training and progressive muscle relaxation training in reducing blood pressure and respiratory rate among highly stressed individuals, Amritsar, India. Out of the 120 females, only those whose anxiety scores were greater than 40 and percentile greater than 70 were selected for the study. Ultimately, 30 highly stressed females with high anxiety scores, who were free from any ailments and not undergoing any kind of medication treatment were chosen for the study. Of these subjects, 20 were randomly assigned to one of the two training groups: GSR bio feedback training and PMR training. The remaining 10 subjects were taken as control. The training was provided for 20 min daily for 10 consecutive days only group 1 showed significant reduction in post training values of respiratory rate on day 10 as compared to day 1. Statistically significant differences were observed on intercrop comparison between GSR biofeedback and control group (t=2.79) and between PMR and control group (t=3.19,). The result revealed that progressive muscle relaxation training showed significant decrease in blood pressure whereas GSR biofeedback training showed a decrease in respiratory rate. Both techniques are simple and easy to use. These can be well adopted by people who face stressful work conditions.

Nazanin Mohajeri-Nelson. (2008) conducted an experimental study in Mexico to determine whether or not a causal relationship exists between the 2 variables. Eleven nom- attorney employees of a large (more than 60 employees) law firm participated in this experiment with 6 participants in the experimental and 5 in the control groups. Pre-tests were conducted for stress level and job satisfaction the results of which were used to assign the participants to the experimental and control groups. The experimental group practiced stress management techniques (breathing and stretching) for 2 weeks. Post tests were conducted to determine whether stress levels were reduced by stress management techniques and whether or not job satisfaction had been increased.

Yoon Bok Hann. (2007) conducted a study in Canada stated that the effectiveness of the normal biofeedback training combined with the progressive muscle relaxation then treatment of patients with essential hypertension, blood pressure decline was measured on the treatment group who had thermal bio feedback and progressive muscle relaxation training. A significant decline of the systolic and diastolic pressure was observed in the treatment group.

Yildirim. Y.K, Fadiloglu. G, (2006) did a study, the effect of progressive muscle relaxation training on anxiety levels and quality of life in dialysis patients. The study was conducted in the dialysis center of Egan University. The mean state anxiety score before and after progressive muscle relaxation training was found as 4.34+/-4.3 and 28.9+/-2.8 respectively ($p<0.001$). Similarly the mean trains anxiety score before and after progressive muscle relaxation training were found as 43.0+/-9.5 and 31.1+/-6.5 respectively ($p<0.001$). When the QOLI dialysis score was examined it was 28.7+/-3.2 before progressive muscle relaxation training and 29.6+/-2.3 after progressive muscle relaxation training ($p<0.01$).

Kchasky., et al. (2006) conducted a study on stress relaxation state and anxiety among police personel. 114 participants in 4 groups practiced 25 minutes of progressive muscle relaxation training, yoga, guided imagery and a control talk. Findings suggested that progressive muscle relaxation had an effects on the somatic stress that other technique and it helps the individual to cope with stress and anxiety.

Prabhu, K. (2006) conducted a study to assess the effectiveness of progressive muscle relaxation on stress and coping among single old age men in Chevvayur. Results suggested that in post intervention, among 60 samples 25 (41.5%) had less stress and adequate coping, 35 (58.3%) had moderate stress, none of them had increased stress and inadequate coping. The data implies that the effectiveness of progressive muscle relaxation in single old age men was highly significant.

Mofassiotis A, Yung H.P. (2002) did the study, the effectiveness of progressive muscle relaxation training in managing chemotherapy induced nausea and vomiting in Chinese breast cancer patients. He conducted experimental study with 66 samples, 33 subjects randomized to the experimental group and 33 to the control group. The use of progressive muscle relaxation training considerably decreased the duration of nausea and vomiting in the experimental group compared with the control group ($p<0.05$), whereas there were trends towards a lower frequency of nausea and vomiting ($p=0.07$ and $p=0.08$ respectively).

Klatt. (2002) conducted a qualitative study among 50 individuals employed in various occupations. Individuals were divided as 15 workers, 15 managers, 9 guardians, 6 teachers provide progressive muscle relaxation training for 30 mts; the result showed that there was a great relief from stress.

Labott., et al. (2000) conducted a study to assess the value of progressive muscle relaxation training in nursing practice. Using of progressive muscle relaxation training in nursing practice helps to relive work stress. The result shows that in nursing practice progressive muscle relaxation training helps to overcome job related stress.

Vaughn M. (1989) conducted a study in Taiwan stated that the effect of progressive muscle relaxation among clerical workers one stress management technique which may be effectively implemented on the job for clerical workers is progressive muscle relaxation. In primary prevention, nursing intervention strives to reduce the effects of harmful stress by identifying and assessing stressors and then implementing measures to strengthen lines of defence.

De Berry S. (1982) conducted a study in Canada regarding evaluation of progressive muscle relaxation on stress related symptoms in a geriatric population participants were also measured on state and trait anxiety, self report muscle tension, hours to fall asleep, number of nocturnal awakening and headaches. This study indicates significant difference on all five measures on experimental and control group. With the exception of trait anxiety, the experimental group manifested significant on the remaining five measures from baseline to end of training, for state of anxiety, a significant improvement continued during the ten weeks of home practice following the end of training.

CONCEPTUAL FRAMEWORK

A conceptual framework is made up of concepts which discuss the mental images of phenomena and integrates them into a meaningful configuration. The conceptual framework helps to attain the objectives of the study. This section deals with the conceptual framework adopted for the study.

This study adopted the concepts of Roy's Adaptation Model. The model was introduced by Sr. Callista Roy in (1964 to 1966). Roy's adaptation theory focuses on the ability of the people to adopt in response to physical and psychological changes in the environment by using innate and acquired coping mechanism.

The Roy's adaptation model is used to explain the nurses role in stress reduction of the patient. A person is an adaptive system and the need for adaptation is triggered by various stimuli. Stressful stimuli can be both physiological and psychological which is perceived by a individual as a stressor. The system (persons) output is a response which may be adaptive or in effective depending upon the intensity of the stimuli and the individuals adaptation level. The goal of nursing is to promote adaptation of the patient using nursing intervention, so that the stimuli fall with in the parts of adaptive range.

Stress demands action, either to change the environment (one's perception of it) or to improve one's ability to cope with the demands of the environment. Roy's adaptation model provides a frame work for this study. The diagnosis and outcome of surgery are stressors because of the psychological and physiological factors associated with disease and its treatment which threaten activities of daily living.

Muscle relaxation exercises are the intervention that is expected to enhance the patients ability to cope affectively with the stress of surgery.

Roy's model characterized as a system theory with a strong analysis of intervention the components which are;

- Input
- Control
- Effector
- Out put

INPUT

It consists of assessing the stimuli among the elective LSCS mothers. They are

Focal stimuli

Focal stimuli are those, internal or external which immediately confronting the person. In this study, it refers to stress among the elective LSCS mothers.

Contextual stimuli

It refers to all stimuli present in the situation general physical, social and psychological environment that contribute to effect of focal stimuli. In this study, the contextual stimuli are demographic variables.

Residual stimuli

These are those internal factors whose current effects are unclear. The beliefs, attitudes and traits of an individual developed from the past but affecting the current responses. The residual stimuli in this study are past experience, availability of substanders, massage, positions.

CONTROL

Individuals have biological abilities to cope with the changing environment. Roy has described these abilities as regulator and cognator subsystem, which considered the person as an adaptive system.

In this study, demonstration of progressive muscle relaxation technique for 30 minutes. It makes alterations in sympathetic nervous system activity, including decrease in blood pressure, pulse, musculo skeletal tone, and neuroendocrine function. It has been suggested that deep somatic restfulness reduces anxiety and physical arousal and that muscular relaxation may derectly inhibit anxiety.

EFFECTOR

Roy has identified four adaptive modes / categories for assessment of behavior resulting from coping, namely physiological, self-concept, and role function and interdependence mode.

Physiological mode

It involves meeting the basic physiological needs of the body is the adaptation. In this study, progressive muscle relaxation technique reduces heart rate, respiratory rate, oxygen consumption and muscle tension were decreased and promotes physiological functioning.

Role function mode

It involves knowing about oneself in relation to others i.e., role development and role taking process. In this study, progressive muscle relaxation technique helps the elective LSCS mothers to perform their role well based on the demands of the society, manage the job and family responsibilities.

Interdependence mode

It involves the process of achieving relation integrity using the process of affectional adequacy. In this study it denotes that maintaining good interpersonal relationship and perceives the importance of progressive muscle relaxation technique given by the investigator.

Self- concept mode

It involves meeting the needs that promotes psychic and spiritual integrity so that one can exit with a sense of unity, meaning and purposefulness in the universe. In this study progressive muscle relaxation technique promotes self- esteem and decreased feeling of inadequacy.

OUTPUT

Output is the outcome of the process. It may be no, mild, moderate and severe response. In this study the progressive muscle relaxation technique was effective in reducing anxiety among elective LSCS mothers as an adaptive response for no and mild and moderate level of anxiety. In post test the mothers still had severe response means this progressive muscle relaxation technique was not effective these mothers under mal adaptive response.

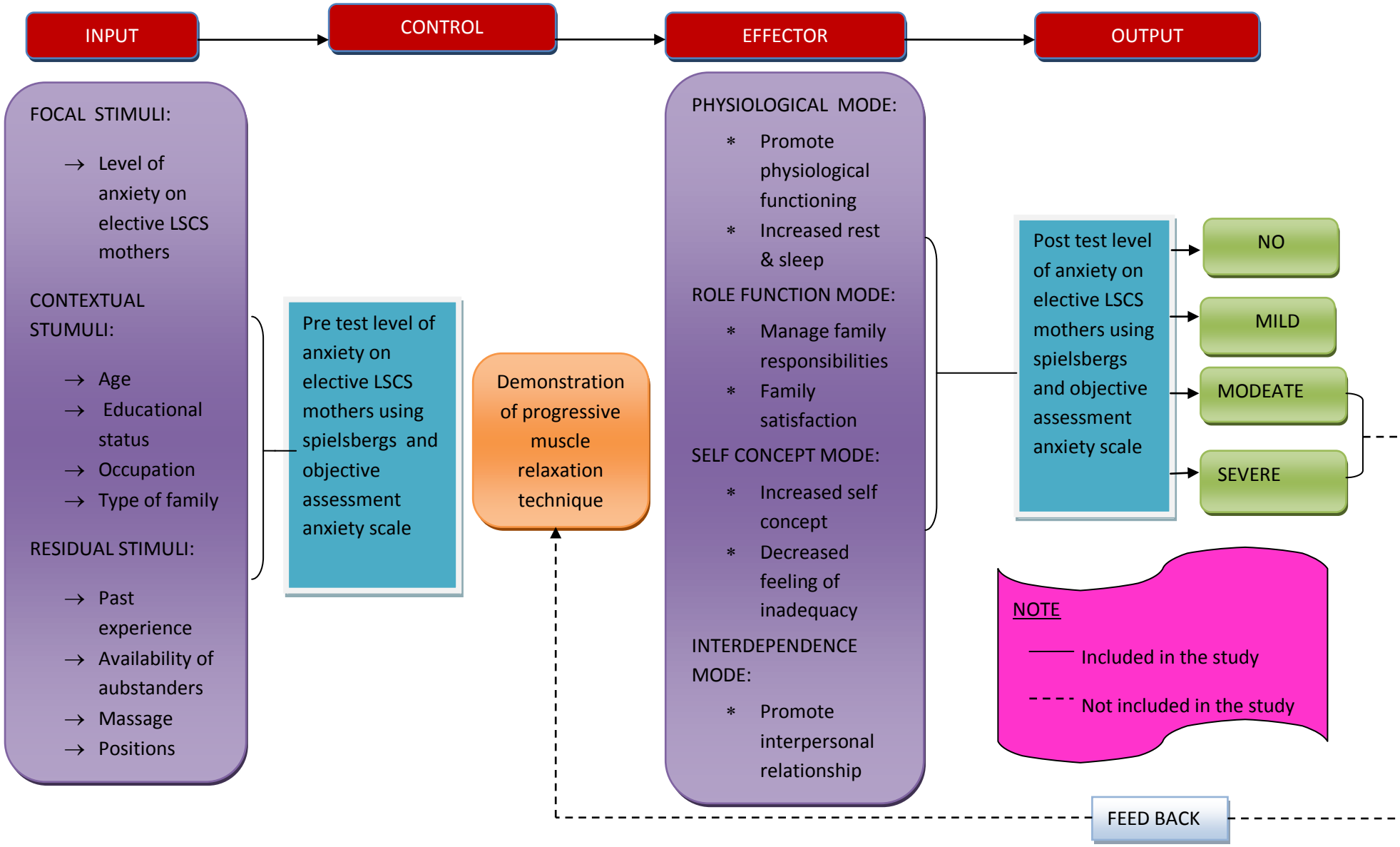


FIGURE 1: CONCEPTUAL FRAMEWORK MODIFIED ROY'S ADAPTATION MODEL – (1984)

CHAPTER III

METHODOLOGY

This chapter deals with methodological approach adopted for the study. It includes description of research approach, research design, variables, setting of the study, population sample and criteria for sample selection, sampling technique, development and description of instrument, data collection procedure and plan for data analysis.

Research approach

The research approach used for this study is quantitative. It has been used with control group by manipulating variables to assess the effectiveness of progressive muscle relaxation therapy in reducing anxiety of mothers undergoing elective LSCS.

Research design

The research design selected for the present study was quasi experimental- pre test and post test control group design, the researcher has chosen the quasi experimental pre test and post test control group design to evaluate the effectiveness of progressive muscle relaxation therapy in reducing anxiety of elective LSCS mothers.

The diagrammatic representation of research design is given below

Group	Pre test	Intervention	Post test
Experimental	O1	Progressive muscle relaxation therapy	O2
Control	O1	***	O2

Key

O1 : pre assessment of anxiety

*** : no intervention

O2 : post assessment of anxiety

Variables

Dependent variable : Anxiety

Independent variable : progressive muscle relaxation therapy

Setting of the study

The study was conducted in obstetrics and gynecology ward of Sivakasi Nadar Maternity Hospital at Madurai. It was situated 10 kms away from CSI Jeyaraj Annapackiam College of Nursing. It has 250 beds, in which the department of obstetrics and gynecology ward has 150 beds. The samples selected were elective LSCS mothers who are admitted in obstetrics and gynecology ward.

Population

Polit and hungler population is the entire aggregation of cases in which the researcher is interested.

The target population selected for this study was pre operative elective LSCS mothers admitted one day prior to surgery.

The accessible population for the study was pre operative elective LSCS mothers who are admitted in Sivakasi Nadar Maternity Hospital at Madurai. Approximately 25-30 mothers were admitted per month for LSCS.

Sample

Polit and hunger (1995) stated that, sample consist of a subset of population selected to participate in a research study.

Sample selected for the present study was 60 elective LSCS mothers from sivakasi nadir maternity hospital at Madurai. 30 sample for experimental group and 30 samples for control group.

Criteria for sample selection

Inclusion criteria

- Mothers who are posted for elective LSCS
- Both primi and para LSCS mothers without previous experience
- Mothers who can understand and respond in tamil

Exclusion criteria

- Mothers who are not willing to participate in the study
- Previous and present history of psychiatric illness

Sampling technique

The samples selected for the present study was by adopting non probability purposive sampling. Each day mothers, who were fulfilling the sampling criteria were selected as the samples. Among them, the first sample is taken as an experimental group and next sample as control group, per day 1 or 2 samples were selected (1 for experimental group and 1 for control group)

Development of tool

The structured questionnaire was developed after extensive review of literature and expert opinion. The standardized scale was used after reviewing the literature, spielbergs state anxiety scale and objective scale measures how the subjects feel at a particular movement of time.

Description of the tool

The instrument consists of selected demographic variables and spielbergs state anxiety scale for measuring anxiety. It consists of three parts.

Part I

It dealt with demographic variables such as age, educational status, monthly income, occupational status, type of family, availability of sub standers and previous history of surgery.

Part II

It dealt with the spielbergs state anxiety scale to assess the pre operative anxiety experienced by mothers posted for elective LSCS.

Part III

It consists of check list for assessing vital signs includes heart rate, respiration, and blood pressure.

Development of interventional strategy on progressive muscle relaxation therapy

The researcher developed interventional strategy on progressive muscle relaxation therapy by reviewing literature and obtaining expert opinion. After getting cooperation from the mother, progressive muscle relaxation therapy was given to the mother for 30 minutes morning and evening before surgery. Post test was assessed by the same scale. Mothers were reported less anxiety and more relaxation after an intervention.

Scoring procedure

In subjective anxiety scale Spielbergs state anxiety scale was used. It consists of 20 items. The respondents are asked how they feel about each statement at the movement of answering. There are 10 positive statements in the scale, which are scored in reverse order, as four to one. There are 10 negative statements which are scored as one to four.

The scores of both positive and negative items in the scale was added to get the total anxiety score of the mothers. High score on the scale indicates higher feeling of anxiety. The scores were divided in to the following categories

20-40 : Mild anxiety

41-60 : Moderate anxiety

61-80 : Severe anxiety

Objective anxiety scale is a structured anxiety scale, which consists of 3 components, the items will be graded as follows

0 : no anxiety

1 – 30 : mild anxiety

31 – 60 : moderate anxiety

61 – 90 : severe anxiety

Validity

The validity of the tool was checked and evaluated by 9 experts, 2 doctors specialized in obstetrics and gynecologist, 1 psychologist, 1 progressive muscle relaxation therapist and 5 nursing experts specialized in obstetrics and gynecological nursing.

Reliability

The degree of consistency, stability and accuracy of the tool was assessed by using Cronbach's alpha and found that the tool developed was reliable for the study. The level of anxiety tool was administered to 6 elective LSCS mothers and the score obtained was interpreted with the following formula,

$$\text{Test reliability } r = \frac{k}{k-1}\left[\frac{1-\sum\sigma}{\sigma y2}\right]$$

The score obtained was 0.8 which revealed that the reliability of the tool prepared by the researcher were acceptable.

Pilot study

A pilot study was conducted in Christian mission hospital at Madurai among 6 elective LSCS mothers (3 for experimental group and 3 for control group). The purpose was to find out the reliability and feasibility of the study. The tool was found to be reliable and feasible to conduct the study.

Data collection procedure

Data collection procedure was done for a period of 6 weeks. Permission was obtained from head of the department of obstetrics and gynecology in sivakasi nadar maternity hospital at Madurai. The researcher initially established rapport with the study subjects. After obtaining their oral consent, interview method was used to collect data about anxiety level. Daily 1 or 2 mothers were interviewed by using spielbergs state anxiety and objective assessment scale. It took about 15-20 minutes to collect the data from each sample. Pre test anxiety was checked for both groups on the day of admission. Progressive muscle relaxation therapy was given to experimental group, the day before surgery in the morning and evening for 30 minutes. Post test anxiety was assessed on the day of surgery by using the same scale in experimental group and also control group without progressive muscle relaxation therapy. Blood pressure, heart rate, respiration were monitored before and after progressive muscle relaxation therapy for experimental and control group.

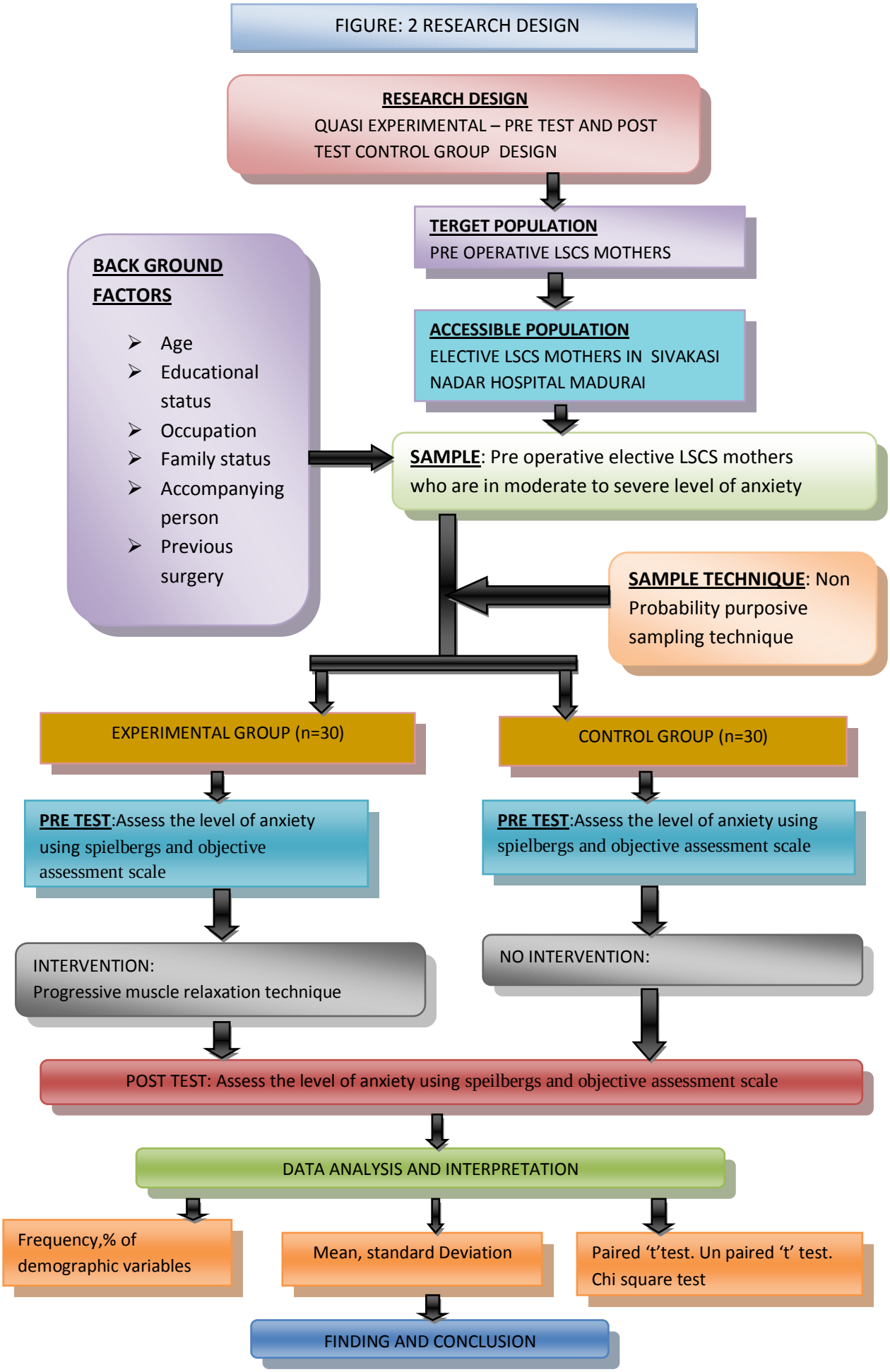
Plan for data analysis

The date was analyzed by using both descriptive and inferential statistics. The data related to demographic variables were analyzed by using descriptive measures (frequency and percentage) and Spielberg's state and structured anxiety score of elective LSCS mothers were analyzed by using descriptive statistics (Mean, Standard deviation). The effectiveness of progressive muscle relaxation therapy in reduction of anxiety and vital signs were analyzed by 't' test. The association between anxiety and selected demographic variables were analyzed by using inferential statistics (chi square test).

Protection of human rights

The researcher got the approval of the dean, head of department of obstetrics and gynecology, nursing superintendent and staff of the maternity and gynecology ward. The oral consent of each individual was obtained before collecting the data. Assurance was given to the study subjects that the anonymity of each individual would be maintained strictly.

FIGURE: 2 RESEARCH DESIGN



CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data to study the effectiveness of progressive muscle relaxation technique on the level of anxiety among elective LSCS mothers in selected hospitals. The data findings have been tabulated and interpreted according to plan for data analysis.

The data collected from 60 samples were grouped and analyzed using descriptive and inferential statistics. The results are presented under the following.

ORGANIZATION OF DATA:

Section A: Data on description of demographic variables of elective LSCS mothers in experimental and control group.

Section B: Data on assessment of level of anxiety among elective LSCS mothers experimental and control group.

Section C: Data on effectiveness of progressive muscle relaxation technique on the level of anxiety among elective LSCS mothers in experimental and control group.

Section D: Data on association between the levels of anxiety with the selected demographic variables among elective LSCS mothers.

SECTION A: Data on assessment of level of anxiety among elective LSCS mothers in experimental and control group

Table 1: Distribution of elective LSCS mothers based on demographic variables in frequency and percentage of the experimental and control group. N= 60

Demographic Variables	**Experimental Group(30)**		**Control Group(30)**	
	F	**%**	**F**	**%**
Age				
Below 20 years	5	16.7	5	16.7
20 – 30 years	13	43	16	53
Above 30 years	12	40	9	30
Education				
Illiterate	0	0	4	13
School	3	10	6	20
High school	9	30	8	26.7
Higher secondary school	7	23	2	6.7
Degree	11	36.7	10	33
Occupation				
House wife	13	43	19	63
Daily wages	2	6.7	3	10
Private employee	12	40	6	20
Government employee	3	10	2	6.7

Family				
Single	18	60	10	33
Joint	12	40	20	66.7
Availability of sub standers				
Husband	2	6.7	1	3
Mother	12	40	9	30
Relatives	9	30	9	30
All	7	23	11	36.7
Previous surgery				
Yes	10	33	14	46.7
No	20	66.7	16	53

Table 1: Shows majority of elective LSCS mothers in both the groups in experimental 13 (43%) and control group 16 (53.3%) were between 20 – 30 years of age, experimental 11 (36.7%) and control group 10 (33%) only were degree holders, experimental 13 (43%) and control group 19 (63%) were house wife, in experimental 18 (60%) were belongs to single family and control group 20 (66.7%) belonged to joint family, in experimental 12 (40%) belongs to availability of mother and control group 11 (36.7%) belongs to availability of all, experimental 20 (66.7%) and control group 16 (53%) were had no previous history of surgery.

SECTION B: Data on assessment of level of anxiety among elective LSCS mothers in experimental and control group

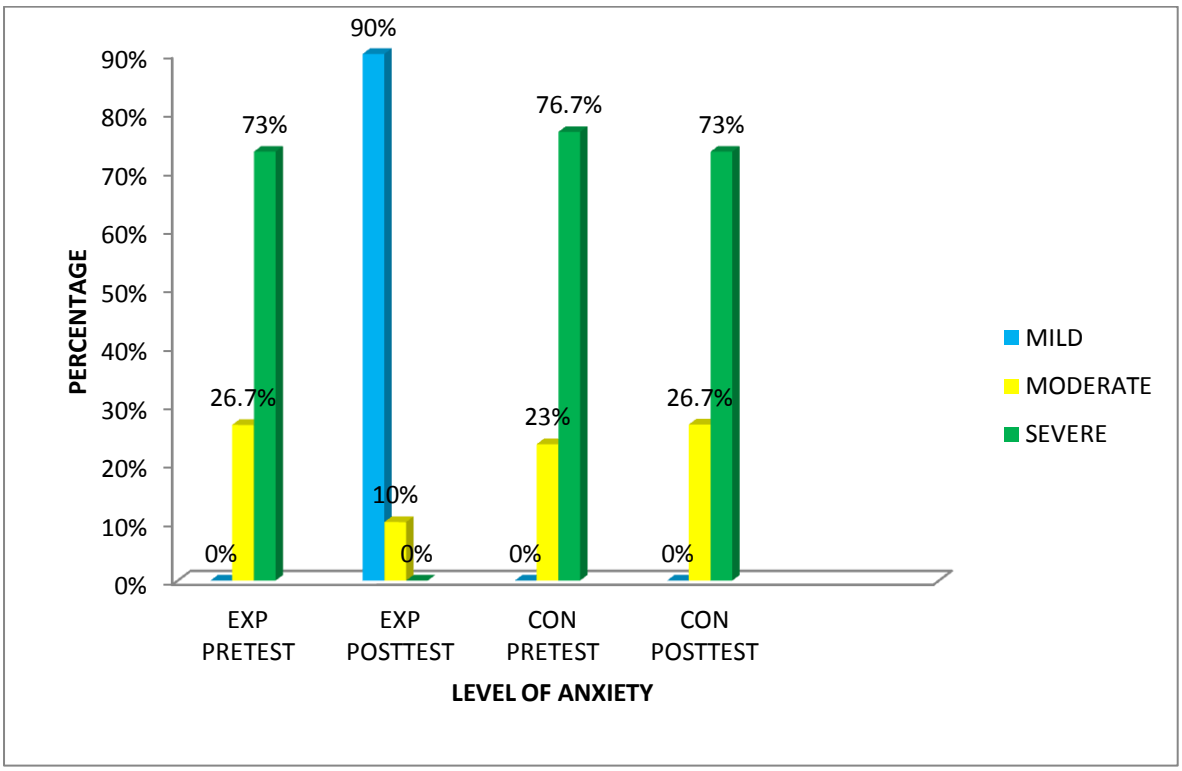
Table 2a : Frequency and percentage distribution of elective LSCS mothers based on pre test and post test level of anxiety on subjective scale in experimental and control group. N = 60

Level of anxiety	Experimental group(30)c				Control group(30)			
	Pre test		Post test		Pre test		Post test	
	F	%	F	%	F	%	F	%
Mild	0	0	27	90	0	0	0	0
Moderate	8	26.7	3	10	7	23	8	26.7
Severe	22	73	0	0	23	76.7	22	73

Table 2a: In experimental group the pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 27 (90%) had mild level of anxiety and 3 (10%) had moderate level of anxiety and none of them had severe level of anxiety.

In control group the pre test shows 7 (23%) had moderate level of anxiety and 23 (76.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 8(26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety.

FIGURE 3: Frequency and percentage distribution of elective LSCS mothers based on pre and post test level of anxiety on subjective scale in experimental and control group



FOOT NOTE: In experimental group the pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 27 (90%) had mild level of anxiety and 3 (10%) had moderate level of anxiety and none of them had severe level of anxiety.

In control group the pre test shows 7 (23%) had moderate level of anxiety and 23 (76.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 8(26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety.

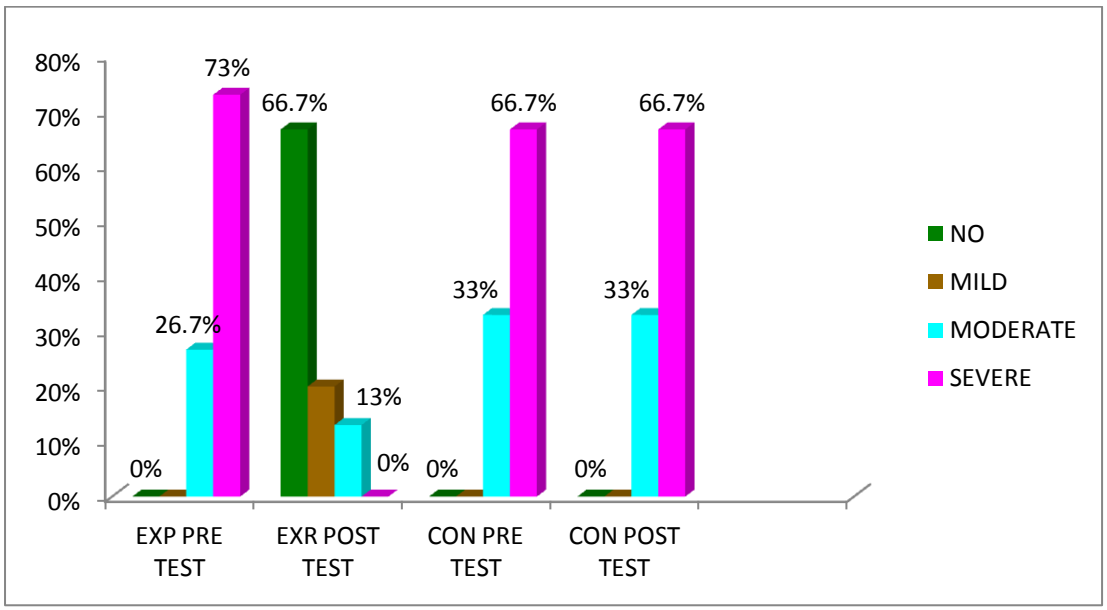
Table 2b: Frequency and percentage distribution of elective LSCS mothers based on pre test and post test level of anxiety on objective scale in experimental and control group N = 60

Level of anxiety	Experimental group(30)				Control group(30)			
	Pre test		Post test		Pre test		Post test	
	F	%	F	%	F	%	F	%
No	0	0	20	66	0	0	0	0
Mild	0	0	6	20	0	0	0	0
Moderate	8	26.7	4	13	10	33	10	33
Severe	22	73	0	0	20	66.7	20	66.7

Table 2b: In experimental group the pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 20 (66.7%) had no anxiety 6 (20%) had mild level of anxiety and 4 (13%) had moderate level of anxiety and none of them had severe level of anxiety.

In control group the pre test shows, 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety.

FIGURE 4: Frequency and percentage distribution of elective LSCS mothers based on pre and post test level of anxiety on objective scale in experimental and control group



FOOT NOTE: In experimental group the pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 20 (66.7%) had no anxiety 6 (20%) had mild level of anxiety and 4 (13%) had moderate level of anxiety and none of them had severe level of anxiety.

In control group the pre test shows, 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety.

SECTION C: Data on effectiveness of progressive muscle relaxation technique on the level of anxiety among elective LSCS mothers in experimental and control group.

Table 3a : Difference between pretest and post test level of anxiety on subjective scale mean scores among elective LSCS mothers in experimental and control group.

	Pre test			**Post test**			**Mean difference in %**
	Mean	**SD**	**Mean%**	**Mean**	**SD**	**Mean%**	
Experimental group	66.6	7.8	53.3	36.6	5.3	45.7	7.6
Control group	66	8.5	82.5	65	9.9	81	1.3

Table 3a: In experimental group the mean percentage pretest score was 53.3 (SD = 7.8) and post test score 45.7 (SD = 5.3) and the mean difference is 7.6%. In control group the mean percentage pretest score was 82.5 (SD = 8.5) and post test score 81.3 (SD = 9.9) and the mean difference is 1.3%

The mean difference in percentage (7.6) was high between pre and post test score of experimental group than control group (1.3%) Which shows the progressive muscle relaxation therapy was effective on reducing anxiety in experimental group.

Table 3b: Difference between pretest and post test level of anxiety on objective scale mean scores among elective LSCS mothers in experimental and control group.

	Pre test			Post test			Mean difference in %
	Mean	**SD**	**Mean%**	**Mean**	**SD**	**Mean%**	
Experimental group	2.7	0.5	3	0.007	0.7	0.007	3
Control group	2.7	0.5	2.97	2.7	0.5	3	0.03

Table 3b: In experimental group the mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 0.007 (SD = 0.7) and the mean difference is 3. In control group the mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 2.7 (SD = 0.5) and the mean difference is 0.03.

The mean difference in percentage (3%) was high between pre and post test score in experimental group than control group (0.03%) Which shows the progressive muscle relaxation therapy was effective on reducing anxiety in experimental group.

Table 3c : Paired "t" test showing the difference between mean pretest and post test level of anxiety on subjective scale among elective LSCS mothers with in the experimental and control group.

	Pre test			Post test			Mean difference in %	"t" value	p value
	Mean	**SD**	**Mean %**	**Mean**	**SD**	**Mean %**			
Experimental group	66.6	7.8	53.3	36.6	5.3	45.7	7.6	15.6	0.000 ***
Control group	66	8.5	82.5	65	9.9	81.3	1.3	0.6	0.6

***p <0.001 – highly significant

Table 3c: In experimental group the mean pre test score 66.6 (53.3%) the mean post test score 36.6 (45.7%) and the mean difference is7.6. The "t" value was 15.6 which showed a statistical significant at $p < 0.001$ level.

In control group the mean pretest score 66 (82.5%) the mean post test score 65 (81.3%) and the mean difference is 1.3. The "t" value was 0.6 which showed not statistically significant at $p < 0.001$ level.

In experimental group the post test anxiety score was less than the pre test score, there is no difference in pre and post test anxiety in control group score. The researcher inferred that progressive muscle relaxation therapy is effective.

Therefore as in H_2 stated that the mean post test anxiety score will be significantly less than the pre test anxiety score of elective LSCS mothers. H_2 was accepted, thereby progressive muscle relaxation therapy was effective.

Table 3d : Paired "t" test showing the difference between mean pretest and post test level of anxiety on objective scale among elective LSCS mothers with in the experimental and control group.

	Pre test			Post test			Mean difference in %	"t" value	p value
	Mean	**SD**	**Mean %**	**Mean**	**SD**	**Mean %**			
Experimental group	2.7	0.5	3	0.007	0.5	0.007	3	13.4	000 ***
Control group	3	0.5	3	2.7	0.5	3	0.03	0.6	0.6

***p <0.001 – highly significant

Table 3d: In experimental group the mean pretest score 2.7 (3%) the mean post test score 0.007 (0.007%) and the mean difference is 3. The "t" value was 13.4 which showed a statistical significant at $p < 0.001$ level.

In control group the mean pretest score 3 (3%) the mean post test score 2.7 (3%) and the mean difference is 0.03. The "t" value was 0.6 which showed not statistically significant at $p < 0.001$ level.

In experimental group the post test anxiety score was less than the pre test score, there is no difference in pre and post test anxiety in control group score. The researcher inferred that progressive muscle relaxation therapy is effective.

Therefore as in H_2 stated that the mean post test anxiety score will be significantly less than the pre test anxiety score of elective LSCS mothers. H_2 was accepted, thereby progressive muscle relaxation therapy was effective.

Table 3e i: Unpaired "t" test showing the mean difference post test level of anxiety on subjective scale among elective LSCS mothers between experimental and control group.

Experimental post test			Control post test			Mean difference in %	"t" value	p value
Mean	SD	Mean %	Mean	SD	Mean %			
36.6	5.3	45.7	65	9.9	81.3	35.6	14.9	0.000 ***

**p < 0.05 – significant, ***p <0.001 – highly significant

Table 3e i: The mean post test score of experimental group 36.6 (45.7%) was less than the control group mean post test score 65 (81.3%). The mean difference is 35.6. The obtained "t" value was 14.9 which showed statistical significance at p <0.001 level.

It was inferred that the progressive muscle relaxation therapy was significantly effective in reducing the anxiety in the experimental group compared to the control group. Hence the H_1 stated that their will be a significant difference between experimental and control group, H_1 was accepted and the progressive muscle relaxation therapy was effective.

Table 3e ii: Unpaired "t" test showing the mean difference post test level of anxiety on objective scale among elective LSCS mothers between experimental and control group.

Experimental post test			Control post test			Mean difference in %	"t" value	P value
Mean	SD	Mean %	Mean	SD	Mean %			
0.007	0.7	0.007	2.7	0.5	3	3	19	0.000 ***

**p < 0.05 – significant, ***p <0.001 – highly significant

Table 3e ii: The mean post test score of experimental group 0.007 (0.007%) was less than the control group mean post test score 2.7 (3%). The mean difference is 3. The obtained "t" value was 19 which showed statistical significance at p <0.001 level.

It was inferred that the progressive muscle relaxation therapy was significantly effective in reducing the anxiety in the experimental group compared to the control group. Hence the H_1 stated that their will be a significant difference between experimental and control group, H_1 was accepted and the progressive muscle relaxation therapy was effective.

SECTION D: Data on association between the levels of anxiety with the selected demographic variables among elective LSCS mothers

Table 4a: Association between post – test level of anxiety on subjective scale in experimental and control group with selected demographic variables.

Demographic variables	Experimental group					Control group				
	Mild	**Moderate**	**Severe**	**χ^2**	**P value**	**Mild**	**Moderate**	**Severe**	**χ^2**	**P value**
Age										
Below 20 years	3	2	0			0	2	3		
20 – 30	6	7	0	0.5	1	0	4	12	1	0.9
> 30 years	7	5	0			0	4	5		
Education										
Illiterate	0	0	0			0	2	2		
School	3	0	0			0	2	4		
High school	7	2	0	2.4	1	0	1	7	13	0.1
Higher secondary school	4	3	0			0	0	2		
Degree	7	4	0			0	4	6		
Occupation										
House wife	8	5	0			0	9	10		
Daily wages	1	1	0	27	0	0	1	2	9	0.2
Private employee	7	5	0			0	3	3		
Government employee	2	1	0			0	1	1		
Family										
Single	12	6	0	0	1	0	2	8	2.5	0.9
Joint	8	4	0	0		10	10			

Availability of sub standers										
Husband	1	1	0			0	0	1		
Mother	6	6	0	5.4	0.5	0	4	5	26	0
Relatives	5	4	0			0	5	4		
All	5	2	0			0	5	6		
Previous history of surgery										
Yes	7	3	0	1.7	0.4	0	7	7	0.1	0.9
No	9	11	0			0	7	9		

Table 4a: The chi-square test revealed that there was no significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, family status, availability of sub standers and history of previous surgery except occupational status in experimental group at $p< 0.05$ level.

The chi-square test revealed that there was no significant association between post level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery except availability of sub standers in control group at $p< 0.05$ level

Table 4b: Association between post – test level of anxiety on objective scale in experimental and control group with selected demographic variables

Demographic variables	Experimental group						Control group					
	No	**Mild**	**Moderate**	**Severe**	**χ^2**	**P value**	**No**	**Mild**	**Moderate**	**Severe**	**χ^2**	**P value**
Age												
Below 20 years	2	2	1	0			0	0	2	3		
20 – 30	5	5	3	0	17	0	0	0	6	10	1	1
Above 30 years	4	4	4	0			0	0	2	7		
Education												
Illiterate	0	0	0	0			0	0	2	2		
School	1	2	0	0			0	0	2	4		
High school	3	4	2	0	2	1	0	0	2	6	11	1
Higher secondary school	3	3	1	0			0	0	0	2		
Degree	5	3	3	0			0	0	3	7		
Occupation												
House wife	7	4	2	0			0	0	9	10		
Daily wages	1	1	0	0	11	0	0	0	2	1	3	1
Private employee	6	5	1	0			0	0	2	4		
Government employee	1	2	0	0			0	0	0	2		

Family												
Single	8	7	3	0	14	0	0	0	2	8	6	0
Joint	4	5	3	0			0	0	5	15		
Availability of sub standers												
Husband	1	1	0	0			0	0	0	1		
Mother	4	5	3	0	4.4	0.9	0	0	2	7	2	1
Relatives	3	3	3	0			0	0	4	5		
All	2	4	1	0			0	0	4	7		
Previous history of surgery												
Yes	3	5	2	0	0.6	0.9	0	0	6	8	0	1
No	6	12	2	0			0	0	6	10		

Table 4b : The chi-square test revealed that there was no significant association between the post test level of anxiety with selected demographic variables such as educational status, occupation, availability of sub standers and history of previous surgery except age and family status in experimental group at $p< 0.05$ level.

The chi-square test revealed that there was no significant association between post- level of anxiety with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery, availability of sub standers in control group at $p< 0.05$ level.

CHAPTER V

DISCUSSION

This chapter discusses the findings of the analysis in relation to the objectives of the study. The aim of the present study was to evaluate the effectiveness of progressive muscle relaxation technique on the level of anxiety among elective LSCS mothers in selected hospitals at Madurai.

The discussion is based on the objectives of the study

The first objective was to assess the level of anxiety in experimental and control group

On subjective scale the experimental group the pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 27 (90%) had mild level of anxiety and 3 (10%) had moderate level of anxiety and none of them had severe level of anxiety.

In control group the pre test shows 7 (23%) had moderate level of anxiety and 23 (76.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety.

On objective scale the experimental group the pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 20 (66.7%) had no anxiety 6 (20%) had

mild level of anxiety and 4 (13%) had moderate level of anxiety and none of them had severe level of anxiety.

In control group the pre test shows, 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety.

The post test anxiety score was significantly less than the pre test anxiety score in both subjective and objective scale which shows the progressive muscle relaxation therapy given by the researcher was effective. Hence the H_1 stated that their will be a significant difference between experimental and control group was accepted.

This study was supported by Prabhu, K. (2006) who conducted a study to assess the effectiveness of progressive muscle relaxation on stress and coping among single old age men in Chevvayur. Results suggested that in post intervention, among 60 samples 25 (41.5%) had less stress and adequate coping, 35 (58.3%) had moderate stress, none of them had increased stress and inadequate coping. The date implies that the effectiveness of progressive muscle relaxation in single old age men was highly significant.

The second objective was to evaluate the effectiveness of progressive muscle relaxation technique on anxiety in experimental group

On subjective scale the experimental group mean percentage pretest score 53.3 (SD = 7.8) the mean percentage post test score 45.7 (SD = 5.3) and the mean difference is 7.6. In control group the mean percentage pretest score 82.5 (SD = 8.5) the mean percentage post test score 81.3 (SD = 9.9) and the mean difference is 1.3.

The mean difference in percentage was higher in experimental group (7.6%) than control group (1.3%) Which shows the progressive muscle relaxation therapy was effective in reducing anxiety on experimental group.

On objective scale the experimental group mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 0.007 (SD = 0.7) and the mean difference is 3.In control group the mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 2.7 (SD = 0.5) and the mean difference is 0.03.

The mean difference in percentage was higher in experimental group (3%) than control group (0.03%) Which shows the progressive muscle relaxation therapy was effective in reducing anxiety on experimental group. Through this the research H_1 stated that their will be a significant difference between experimental and control group was accepted.

This study was supported by Ghoncheh., et al. (2004) who conducted a study to compare the psychological effects of progressive muscle relaxation (PMR) and yoga stretching (hatha) exercises. Forty participants were randomly divided into two groups and taught PMR or yoga stretching exercises. Both groups practiced once a week for five weeks and were given the Smith Relaxation States Inventory before and after each session. Progressive muscle relaxation technique displayed higher levels of relaxation states (R- States) Physical Relaxation and higher levels of Mental Quiet and Joy.

The third objective was to find the difference between experimental and control group before and after therapy

On subjective scale the experimental group mean pre test score 66.6 (53.3%) the mean post test score 36.6 (45.7%) and the mean difference is7.6. The "t" value was 15.6 which showed a statistical significant at $p < 0.001$ level. In control group the mean pretest score 66 (82.5%) the mean post test score 65 (81.3%) and the mean difference is 1.3. The "t" value was 0.6 which showed not statistically significant at $p < 0.001$ level.

The progressive muscle relaxation therapy was effective in experimental group. As stated in H_2 that the mean post test anxiety score will be significantly less than the pre test anxiety score of elective LSCS mothers in experimental group.

Unpaired "t" test shows the mean post test score of experimental group 36.6 (45.7%) was less than the control group mean post test score 65 (81.3%). The mean difference is 35.6. The obtained "t" value was 14.9 which showed statistical significance at $p <0.001$ level.

It is inferred that the progressive muscle relaxation therapy was significantly effective on reducing anxiety in experimental group. Hence the H_1 stated that their will be a significant difference between experimental and control group, which was accepted.

On objective scale the experimental group mean pretest score 2.7 (3%) the mean post test score 0.007 (0.007%) and the mean difference is 3. The "t" value was 13.4 which showed a statistical significant at $p < 0.001$ level. In control group the mean pretest score 3 (3%) the mean post test score 2.7 (3%) and the mean difference

is 0.03. The “t” value was 0.6 which showed not statistically significant at $p < 0.001$ level.

The progressive muscle relaxation therapy was effective in experimental group. As stated in H_2 that the mean post test anxiety score will be significantly less than the pre test anxiety score of elective LSCS mothers in experimental group.

Un paired “t” test shows the mean post test score of experimental group 0.007 (0.007%) was less than the control group mean post test score 2.7 (3%). The mean difference is 3. The obtained “t” value was 19 which showed statistical significance at $p < 0.001$ level.

It is inferred that, the progressive muscle relaxation therapy was significantly effective on reducing anxiety in experimental group. Hence the H_1 stated that their will be a significant difference between experimental and control group, which was accepted

This study was supported by Tusek. (1997) has studied on progressive muscle relaxation therapy as a coping strategy for pre operative patients. He states that the patients who undergo surgery usually experience fear and apprehension about their surgical procedures. PMR is a simple, low cost therapeutic tool that can help counteract surgical patients fear and anxiety. He randomly assigned 130 patients undergoing elective colorectal surgical procedures into two groups. One group received routine pre operative care and other group listened to PMR for 3 days before their surgical procedures. The study revealed that the patients in the PMR therapy experienced considerably less pre operative and post operative anxiety and pain and they required almost 30% less narcotic medications after the surgical procedures than patients in the control group.

The fourth objective was to find out the association between the level of pre operative anxiety with their selected demographic variables

On subjective scale the chi-square test revealed that there was no significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, family status, availability of sub standers and history of previous surgery except occupational status in experimental group at $p< 0.05$ level.

The chi-square test revealed that there was no significant association between post level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery except availability of sub standers in control group at $p< 0.05$ level

On objective scale the chi-square test revealed that there was no significant association between the post test level of anxiety with selected demographic variables such as educational status, occupation, availability of sub standers and history of previous surgery except age and family status in experimental group at $p< 0.05$ level.

The chi-square test revealed that there was no significant association between post- level of anxiety with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery, availability of sub standers in control group at $p< 0.05$ level.

Robertson (1985) had done a study to test the effectiveness of brief relaxation training on post operative pain replicating and extending a study of Flaherty and Fitzpatrick (1978). A two group pre and post test experimental design was used to determine vital signs, analgesic consumption, anxiety, self reported incision pain sensation and distress in post surgical patients who have or have not received

relaxation training. Seventy two adult elective abdominal surgery patients were randomly assigned to treatment groups. Subjects in both groups were visited on the evening of surgery. Experimental subjects were taught a progressive muscle relaxation technique. Equal time was spent with control subjects. Following surgery all subjects were observed during ambulation. Vital signs were measured pre and post operatively as were self reports of pain sensation and distress. The results showed that distress caused by painful sensations was significantly lower for experimental subjects (F.1,53=4-69, p = 0.03). Vital signs, analgesic consumption and self reported pain sensation were not altered by relaxation training. Additional analysis by type of surgery (cholecystectomy and hysterectomy) showed hysterectomy subjects reported less pain sensation and distress and used less analgesic than cholecystectomy subjects.

Thus the study result shows that H_3 there will be a significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables was rejected in control group and experimental group. So there is no influence of demographic factors on the level of anxiety among elective LSCS mothers.

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

SUMMARY

The primary aim of the present study to evaluate the effectiveness of progressive muscle relaxation technique on the level of anxiety among elective LSCS mothers in selected hospitals at Madurai.

The objectives of the study were

- To assess the level of anxiety in experimental group and control group.
- To evaluate the effectiveness of progressive muscle relaxation technique on anxiety in experimental group.
- To find the difference between experimental group and control group before and after therapy.
- To find the association between the level of pre operative anxiety with their selected demographic variables.

The research hypotheses stated were

H1 : Their will be a significant difference between experimental and control group

H2 : The mean post test anxiety score will be significantly less than the pre test anxiety score of elective LSCS mothers who had progressive muscle relaxation therapy

H3 : There will be a significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables.

Assumptions

- Patients undergoing major surgeries will experience various degrees of anxiety
- It is possible to reduce anxiety by progressive muscle relaxation therapy

The extensive review of literature enabled the researcher to develop the conceptual framework, tool and methodology. Literature reviews was organized as follows

A : Studies related to pre operative anxiety

B: Studies related to anxiety and its response

C: Studies related to effectiveness of progressive muscle relaxation technique

The conceptual framework of this study was based on Roy's Adaptation model (1984). The research design selected for the study was quasi experimental research design with pretest post test control group design. Independent variable in the study was progressive muscle relaxation and dependent variable was anxiety among elective LSCS mothers.

The tool used in the study was a standardized questionnaire on anxiety among elective LSCS mothers. Spielberg's state anxiety scale was used after confirming the validity and reliability. The pilot study was conducted among six elective LSCS mothers. The study was found to be feasible, practicable and reliable to continue the main study.

The main study was conducted at Christian mission hospital and siva kasi nadir Maternity hospital at Madurai. Non probability purposive sampling technique was used to select the samples. Total sample size was 60 in which 30 in experimental

group and 30 in control group. The objectives and purpose of the study were explained and confidentiality was maintained. Pre-test was done using the anxiety scale questionnaire and the progressive muscle relaxation technique was demonstrated to the experimental group alone. Post test was done with same anxiety scale questionnaire. Data collected were analyzed and interpreted using descriptive and inferential statistics.

The findings of the study were

- Majority of elective LSCS mothers in both the groups in experimental 13 (43%) and control group 16 (53.3%) were between 20 – 30 years of age, experimental 11 (36.7%) and control group 10 (33%) only were degree holders, experimental 13 (43%) and control group 19 (63%) were house wife, in experimental 18 (60%) were belongs to single family and control group 20 (66.7%) were belongs to joint family, in experimental 12(40%) were belongs to availability of mother and control group 11 (36.7%) were belongs to availability of all, experimental 20 (66.7%) and control group 16 (53%) were had no previous history of surgery
- On subjective scale the experimental group pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 27 (90%) had mild level of anxiety and 3 (10%) had moderate level of anxiety and none of them had severe level of anxiety. In control group the pre test shows 7 (23%) had moderate level of anxiety and 23 (76.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 8(26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety.

- On objective scale the experimental group pre test shows 8 (26.7%) had moderate level of anxiety and 22 (73%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 20 (66.7%) no anxiety 6 (20%) had mild level of anxiety and 4 (13%) had moderate level of anxiety and none of them had severe level of anxiety. In control group the pre test shows, 10 (33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety, the post test shows 10(33%) had moderate level of anxiety and 20 (66.7%) had severe level of anxiety and none of them had mild level of anxiety.
- On subjective scale the experimental group mean percentage pretest score 53.3 (SD = 7.8) the mean percentage post test score 45.7 (SD = 5.3) and the mean difference is 7.6. In control group the mean percentage pretest score 82.5 (SD = 8.5) the mean percentage post test score 81.3 (SD = 9.9) and the mean difference is 1.3. The mean difference in percentage was higher in experimental group (7.6%) than control group (1.3%) Which shows the progressive muscle relaxation therapy was effective in reducing anxiety on experimental group.
- On objective scale the experimental group mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 0.007 (SD = 0.7) and the mean difference is 3. In control group the mean percentage pretest score 2.7 (SD = 0.5) the mean percentage post test score 2.7 (SD = 0.5) and the mean difference is 0.03. The mean difference in percentage was higher in experimental group (3%) than control group (0.03%) Which shows the progressive muscle relaxation therapy was effective in reducing anxiety on experimental group.

- On subjective scale the experimental group mean pre test score 66.6 (53.3%) the mean post test score 36.6 (45.7%) and the mean difference is7.6. The "t" value was 15.6 which showed a statistical significant at $p < 0.001$ level. In control group the mean pretest score 66 (82.5%) the mean post test score 65 (81.3%) and the mean difference is 1.3. The "t" value was 0.6 which showed not statistically significant at $p < 0.001$ level. In experimental group the pre test anxiety score was higher than the post test score but in control group there is no difference in pre and post test score which shows the progressive muscle relaxation therapy was effective in experimental group.
- On objective scale the experimental group mean pretest score 2.7 (3%) the mean post test score 0.007 (0.007%) and the mean difference is 3. The "t" value was 13.4 which showed a statistical significant at $p < 0.001$ level. In control group the mean pretest score 3 (3%) the mean post test score 2.7 (3%) and the mean difference is 0.03. The "t" value was 0.6 which showed not statistically significant at $p < 0.001$ level. In experimental group the pre test anxiety score was higher than the post test score but in control group there is no difference in pre and post test score which shows the progressive muscle relaxation therapy was effective in experimental group.
- On subjective scale the Un paired t" test shows the mean post test score of experimental group 36.6 (45.7%) was less than the control group mean post test score 65 (81.3%). The mean difference is 35.6. The obtained "t" value was 14.9 which showed s statistical significance at $p <0.001$ level. It was inferred that the progressive muscle relaxation therapy was significantly effective in reducing the anxiety in the experimental group.

- On objective scale the Un paired t" test shows the mean post test score of experimental group 0.007 (0.007%) was less than the control group mean post test score 2.7 (3%). The mean difference is 3. The obtained "t" value was 19 which showed statistical significance at p <0.001 level. It was inferred that the progressive muscle relaxation therapy was significantly effective in reducing the anxiety in the experimental group.
- On subjective scale the chi-square test revealed that there was no significant association between the post test level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, family status, availability of sub standers and history of previous surgery except occupational status in experimental group at p< 0.05 level.
- The chi-square test revealed that there was no significant association between post level of anxiety among elective LSCS mothers with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery except availability of sub standers in control group at p< 0.05 level
- On objective scale the chi-square test revealed that there was no significant association between the post test level of anxiety with selected demographic variables such as educational status, occupation, availability of sub standers and history of previous surgery except age and family status in experimental group at p< 0.05 level.
- The chi-square test revealed that there was no significant association between post- level of anxiety with selected demographic variables such as age, educational status, occupation, family status and history of previous surgery, availability of sub standers in control group at p< 0.05 level.

IMPLICATIONS

The investigator has drawn the following implications from the study that is of vital concern for Nursing service, Nursing education, Nursing administration and Nursing research.

Nursing Service

- The progressive muscle relaxation technique can be used among client with stress disorder and anxiety disorders to improve the psychological wellbeing and reduce the physical and mental morbidity and mortality rates.
- Nurses practicing in health care setting should be equipped with knowledge on progressive muscle relaxation technique to reduce their job stress and anxiety.
- Nursing service department should train a group of nurses for demonstrating progressive muscle relaxation technique to various levels of workers.

Nursing Education

- Nurse educators can improve the concepts of various relaxation technique especially progressive muscle relaxation technique to nursing students to manage their stress and anxiety.
- Staff development programme can be conducted often regarding progressive muscle relaxation technique to manage their job stress anxiety and promotes relaxation.
- Students can utilize the video assisted teaching programme on progressive muscle relaxation technique to give health education to patients.

Nursing Administration

- Nurse administrator have to balance the multiplicity of tasks and roles and to deal with the problems of the employees in which progressive muscle relaxation technique can be implemented to manage their job stress and anxiety.
- Nurse administrator should conduct in-service education programme for directing and motivating staff towards utilizing progressive muscle relaxation technique.
- Periodic performance appraisal among nursing personnel regarding implementation of all aspects of nursing care can be promoted.

Nursing research

- Nursing research can be done to find out the effectiveness of progressive muscle relaxation technique among different types of anxiety.

LIMITATIONS

- The researcher had faced difficulty in getting permission for the study.
- The researcher faced difficulty in getting co operation from the samples.
- The study was limited to only elective LSCS mothers

CONCLUSION

The main study concludes that the existing level of anxiety among elective LSCS mothers was high. So the researcher planned for the progressive muscle relaxation technique through demonstration. The results revealed that there was a significant difference in the level of anxiety among elective LSCS mothers after practicing progressive muscle relaxation technique in experimental group. Many of

the elective LSCS mothers felt relaxed after progressive muscle relaxation technique. Hence the study concluded that LSCS mothers need continuous and different types of relaxation technique to reduce their level of anxiety.

RECOMMENDATIONS

The researcher recommends that

- The same study can be conducted among nurses to assess their level of stress and anxiety
- The same study can be conducted among all types of surgical patients to assess their level of anxiety.
- The same study can be conducted as a comparative study to assess their level of anxiety among elective LSCS mothers and emergency LSCS mothers.
- The same study can be conducted as a descriptive study to find out the relationship between type of surgery and level of anxiety among mothers
- The same study can be replicated on large samples there by findings can be generalized to a large population.

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APPENDIX A

From

D.Jebha,

II year M.Sc(N),

C.S.I Jeyaraj Annapackiam College of Nursing and Allied Health Sciences,

Pasumalai,Madurai.

To

Forwarded through,

Prof. Dr. C. JothiSophia,M.Sc(N).,Ph.D(N).,

Principal,

C.S.I Jeyaraj Annapackiam College of Nurisng and Allied Health Sciences,

Madurai.

Respected Sir/Madam,

Sub: Requisition to conduct the research study – reg.

With due regards, I kindly bring to your valuable notice that, I am doing my post- graduation in nursing at C.S.I Jeyaraj Annapackiam College of Nursing and Allied Health Sciences., Madurai. As a part of my university requirement I am supposed to complete a research study for which I have selected the following topic: **An experimental study to evaluate the effectiveness of Jacobson's progressive muscle relaxation technique on level of anxiety among preoperative mothers undergoing elective LSCS in selected hospitals at Madurai.**

I have planned to do my research study in your esteemed institution. So I humbly request you to give me permission to conduct the study for which I remain grateful.

Thanking You

Place: Pasumalai. Yours Sincerely,

(JEBHA.D)

APPENDIX B

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Ms. Jebha.D,

IIyear M.Sc(N),

C.S.I Jeyaraj Annapackiam College of nursing,

Pasumalai, Madurai-4.

To

Respcted Sir/Madam,

Sub: Requisition for opinion and suggestion of experts for content validity-reg

With the regards, I kindly bring to your valuable notice that I am doing my second year M.Sc(N) at C.S.I Jeyaraj Annapackiam College of Nursing, Madurai. In order to fulfill my master degree as per the university requirement, I am supposed to complete a research project. I have selected the following topic for my research project,

An experimental study to evaluate the effectiveness of Jacobson's progressive muscle relaxation technique on level of anxiety among preoperative mothers undergoing elective LSCS in selected hospitals at Madurai.

So I am in need of your valuable opinion and suggestions regarding the tool which I have prepared. Here with I am sending the tool and I humbly request you to spare a little of your precious time to validate the tool, which I remain ever grateful to you.

Thanking You

PLACE: Madurai Yours Sincerely,

DATE: (JEBHA.D)

CONTENT VALIDITY CERTIFICATE

This is to certify that the tool developed by Ms. JEBHA.D, II year M. Sc(N) student of C.S.I Jeyaraj Annapackiam College of Nursing, Madurai. (affiliated to Dr. M.G.R Medical University, Chennai) is validated by the undersigned, can proceed with this tool and conduct the main study for dissertation entitled, **An experimental study to evaluate the effectiveness of Jacobson's progressive muscle relaxation technique on level of anxiety among preoperative mothers undergoing elective LSCS in selected hospitals at Madurai.**

SIGNATURE:

PLACE:

NAME:

DATE:

DESIGNATION:

ADDRESS:

APPENDIX C

LIST OF EXPERTS FOR THE CONTENT VALIDITY OF THE TOOL

Dr. MALAR KODI, M.B.B.S., D.G.O

Obstetrics and gynecologist

Christian Mission Hospital, Madurai.

Dr.KANITHA, M.B.B.S., D.G.O

Obstetrics and gynecologist

Christian Mission Hospital, Madurai.

DR. CHARLES STEPHEN RAJA SINGH, M.B.B.S M.D

Medical Director,

Christian Mission Hospital, Madurai.

PROF. (MRS.) MERLIN JEYAPAUL M.Sc(N)., RN.RM.Ph.D.,

Vice-Principal

C.S.I.Jeyaraj Annapackaiam College Of Nursing

Madurai-4

PROF. (MRS.) SHANTHI M. Sc(N)., RN.RM.

H.O.D Department of Obstetrics and Gynecology nursing

C.S.I.Jeyaraj Annapackaiam College Of Nursing

Madurai-4

PROF. (MRS.) VIJAYA M. Sc(N)., RN.RM.

H.O.D Department of Obstetrics and Gynecology nursing

Government Rajaji Medical College of nursing

Madurai

PROF. (MRS.) ANITA MARY LEENA M. Sc(N)., RN.RM.

H.O.D Department of Obstetrics and Gynecology nursing

St.Xaviers Catholic College Of Nursaing

Nagercoil

PROF. (MRS.) SUGUNA M. Sc(N)., RN.RM.

H.O.D Department of Obstetrics and Gynecology nursing

Nehru College of Nursing

Vallioor

Dr.B. ANANTHAVALLI M.Sc., M.A., M.Phil., Ph. D.,

Director and Secretary

The Valliammal Institution

Madurai

Mr. Mani M.Sc. M.Phil.,

Bio-statistician

Meenakshi Mission Hospital

Madurai

APPENDIX D

THE VALLIAMMAL INSTITUTION (TVI)

11/6 B.B. Road 2nd St., Pankajam Colony , Madurai-625 009.
✆ 98430 40226; 98942 49630 email: ananthibetsy@rediffmail.com

Certificate Course in Basic Counselling Skills and Progressive Muscle Relaxation

Reg. No. PCC/33/Aug. 2013/241 Date: 07/08/2013

This is to certify that JEBHA D *has completed our* **CERTIFICATE COURSE IN BASIC COUNSELLING SKILLS AND PROGRESSIVE MUSCLE RELAXATION** *(24 hrs Part-time Education Programme designed and offered by experts) by effectively participating in theory & practical classes and successfully completing all the exercises. She has been placed in First Class*

THE VALLIAMMAL INSTITUTION (TVI)
11/6 B.B. Road
2nd St.,
Pankajam Colony ,
Madurai-625 009
Ph: 2312206

7/08/13

Prof. Dr. S. Jeyapragasam M.Sc.,M.A.,M.A.,Ph.D.,
Director
Rajarajan Institute of Science (RISE)

Dr. B. Ananthavalli M.Sc.,M.A.,M.Phil.,Ph.D.,
Director & Secretary
The Valliammal Institution (TVI)

பகுதி- 1

பின்னணி விவரம்

1. வயது

அ) 20 வயதிற்கு கீழ்

ஆ) 20 வயது முதல் 30 வயது வரை

இ) 30 வயதிற்கு மேல்

2) கல்வித்தகுதி

அ) படிக்காதவர்

ஆ) ஆரம்பக்கல்வி

இ) உயர்கல்வி

ஈ) மேல்நிலைக் கல்வி

உ) பட்டப்படிப்பு

3) தொழில் விபரம்

அ)குடும்ப தலைவி

ஆ)தினக்கூலி

இ)தனியார் ஊளியர்

ஈ)அரசு ஊளியர்

4) குடும்பம்

அ) தனிக்குடும்பம்

ஆ) கூட்டுக்குடும்பம்

5) பிரசவத்தின் போது உடனிருப்பவர்

அ) கணவர்

ஆ) தாய்

ஆ) கணவர் மற்றும் தாய்

ஈ) கணவர் தாய் மற்றும் உறவினர்கள்

6) இதற்கு முன் ஏதேனும் அறுவை சிகிச்சை செய்துள்ளீர்களா?

அ) ஆம்

ஆ) இல்லை

பகுதி-2

சூழ்நிலையை பொறுத்துள்ள மனக்கவலையை மதிப்பிடும் கூற்றுக்களின் பட்டியல்

வ. எண்	கேள்விகள்	இல்லை	ஓரளவு	மிதமான அளவு	அதிக அளவு
1	உங்கள் மனம் அமைதி நிலையில் இருப்பதாக உணர்கிறீர்களா?				
2	நீங்கள் பாதுக்காப்பாக இருப்பதாக உணர்கிறீர்களா?				
3	நீங்கள் மன இறுக்கத்துன் இருக்கிறீர்களா?				
4	உங்கள் மனம் பாரமாக இருப்பது போல் உணர்கிறீர்களா?				
5	உங்கள் மனம் இலேசாக இருப்பது போல் உணர்கிறீர்களா?				
6	நீங்கள் மனம் தளர்ந்தது போல் உணர்கிறீர்களா?				
7	பின்னால் வர வாய்ப்புள்ள துரதிர்ஷ்டங்களை ந்னைத்து இப்போது வருத்தப்படுகிறீர்களா?				
8	நீங்கள் திருப்தியுடன் இருப்பதாக நினைகிறீர்களா?				
9	நீங்கள் மன அதிர்ச்சியுடன் இருப்பதாக நினைகிறீர்களா?				

10	நீங்கள் சௌகரியமாய் இருப்பதாக நினைகிறீர்களா?				
11	நீங்கள் தன்னம்பிக்கையுடன் இருக்கிறீர்களா?				
12	உங்களுக்கு பய உணர்வு இருக்கிறதா?				
13	உங்கள் மனதில் திகைத்தல் போன்ற உணர்வு ஏற்படுகிறதா?				
14	நீங்கள் முடிவு எடுக்க முடியாதவர்கள் என்று நினைக்கிறீர்களா?				
15	உங்கள் மனம் நிம்மதியுடன் இருப்பதாக உணர்கிறீர்களா?				
16	நீங்கள் திறமுடன் இருப்பதாக நினைக்கிறீர்களா?				
17	உங்கள் மனதில் கவலை உள்ளதா?				
18	உங்கள் மனம் குழப்பத்துடன் இருக்கிறதா?				
19	நீங்கள் மன உறுதி உடையவரா?				
20	உங்கள் மனம் இப்பொழுது இன்பகரமாக இருக்கிறதா?				

* எதிர்மறையான கூற்றுகள்

பகுதி 3

வ.எண்	முக்கிய அறிகுறிகள்	முன்பு	பின்பு
1.	இதய துடிப்பு		
2.	சுவாசம்		
3.	இரத்த அளுத்தம்		

APPENDIX E

PART A

DEMOGRAPHIC VERIABLES

Demographic profile

1) Age in years
   A) <20
   B) 20-30
   C) >30

2) Education

   A) Illiterate

   B) School

   C) High school

   D) Higher secondary school

   E) Degree

3) Occupation

   A) House wife

   B) Daily wages

   C) Private employee

   D) Government employee

4) Type of family

   A) Nuclear

   B) Joint

5) Availability of sub standers

   A) Husband

   B) Mother

   C) Relatives

   D) All

6) Previous history of surgery

   A) Yes

   B) No

PART II

SPEILBERGS STATE ANXIETY SCALE:

S No	Statements	Not At All	Some What	Moderately So	Very Much So
1	Do you feel calm	4	3	2	1
2	Do you feel secure	4	3	2	1
3*	Do you feel tense	1	2	3	4
4*	Do you feel strained	1	2	3	4
5	Do you feel at ease	4	3	2	1
6*	Do you feel upset	1	2	3	4
7*	Are you presently worrying about possible misfortunes	1	2	3	4
8	Do you feel satisfied	4	3	2	1
9*	Do you feel frightened	1	2	3	4
10	Do you feel comfortable	4	3	2	1
11	Do you feel self confident	4	3	2	1
12*	Do you feel nervous	1	2	3	4
13*	Are you jittery	1	2	3	4
14*	Do you feel indecisive	1	2	3	4
15	Are you relaxed	4	3	2	1
16	Do you feel content	4	3	2	1
17*	Are you worried	1	2	3	4
18*	Do you feel confused	1	2	3	4

19	Do you feel steady	4	3	2	1
20	Do you feel pleasant	4	3	2	1

*Negative statement

The score where divided into the following categories

s.no	**Score**	**Categories**
1.	20-40	Mild anxiety
2.	41-60	Moderate anxiety
3.	61-80	Severe anxiety

PART III

CHECK LIST FOR OBJECTIVE ASSESSMENT:

SNO	VITAL SIGNS	PATIENT VALUE	INCREASED	DECREASED
	Before progressive muscle relaxation therapy Heart rate Respiration Blood pressure After progressive muscle relaxation therapy Heart rate Respiration Blood pressure			

The score where divided into the following categories

s.no	Score	Categories
1.	0	No anxiety
2.	1-30	Mild anxiety
3.	31-60	Moderate anxiety
4.	61-90	Severe anxiety

APPENDIX – F

PROGRESSIVE MUSCLE RELAXATION – GUIDE

INTRODUCTION

Our bodies respond to anxiety with muscular tension. It is thought to be the most common symptom of anxiety. Progressive muscle relaxation technique is a anxiety management technique that allows us to recognize and relieve this tension by contracting and then relaxing specific muscle groups in a systematic way. Concentrating on the technique also frees our minds from the problems or situations that caused the anxiety.

DEFINITION

Progressive relaxation technique is a technique of systematically tensing and releasing of your muscles, in order to create whole body relaxation. By consciously letting go of tension from our bodies and creating an environment which is peaceful and quite, our bodies go from an activated mode into a deactivated one.

STAGES

There are four stages in progressive muscle relaxation technique:

1. Awareness of tension – by concentrating on an area of your body, you learn to recognize tension
2. Tensing the muscles
3. Letting go of the tensing
4. Awareness of relaxation – you concentrate on the particular area of your body, and you learn to recognize the feeling of relaxation

MUSCLE GROUPS INVOLVED IN PROGRESSIVE MUSCLE RELAXATION TECHNIQUE

There are fifteen muscle groups involved in progressive muscle relaxation technique. They are

1. Dominant hand and forearm
2. Dominant upper arm
3. Non dominant hand and forearm
4. Non dominant upper arm
5. Forehead
6. Upper cheeks and nose
7. Lower face
8. Neck
9. Chest, shoulders, and upper back
10. Dominant upper leg
11. Dominant calf
12. Dominant foot
13. Non dominant upper leg
14. Non dominant calf
15. Non dominant foot

GUIDE LINES

- Practice it for at least 20 minutes
- Find a quiet location to practice where you won't be distracted
- Practice at regular time. On awakening, before retiring, or before meals are generally the best times, a consistent daily relaxation routine will increase the likelihood of generalization effects.
- Practice on an empty stomach. Food digestion after meals will tend to distrupt deep relaxation
- Assume a comfortable position. Your entire body, including your head, should be supported. Lying down on a sofa or bed or sitting in a reclining chair are two ways of supporting your body most completely, (when lying down, you may want to place a pillow beneath your knees for further support.) sitting up is preferable to lying down if you are feeling tired and sleepy. It's advantageous to experience the full depth of the relaxation response consciously without going to sleep
- Loosen any tight clothing and take off shoes, watch, glasses, contact lenses, jewelry, and so on

STEPS IN PROGRESSIVE MUSCLE RELAXATION TECHNIQUE

Sit in a comfortable chair – reclining arm chairs are ideal. Bed is okey too. Get as comfortable as possible – no tight clothes, shoes, don't cross your legs. Take a deep breath, let it out slowly. Again, what you'll be doing is alternately tensing and relaxing specific groups of muscles. After tension, a muscle will be more relaxed than prior to the tensing. Concentrate on

the feel of the muscles, specifically the contrast between tension and relaxation. In time, you will recognize tension in any specific muscle and be able to reduce that tension.

Don't tense muscles other than the specific group at each step. Don't hold your breath, grit your teeth, or squint! Breath slowly and evenly and think only about the tension- relaxation contrast. Each tensing is for 10 seconds; each relaxing is for 10 or 15 seconds. Count "1,000 2,000…" until you have a feel for the time span. Note that each step is really two steps--- one cycle of tension- relaxation for each set of opposing muscles.

1. **HANDS:** The fists are tensed; relaxed. The fingers are extended; relaxed.
2. BICEPS AND TRICEPS: The biceps are tensed (make a muscle—but shake your hands to make sore not tensing them into a fist); relaxed (drop your arm to the chair—really drop them). The triceps are tensed (try to bend your arms the wrong way); relaxed (drop them).
3. **SHOULDERS:** Pull them back (careful with this one); relax them. Push the shoulders forward (hunch); relax.
4. **NECK (LATERAL):** With the shoulders straight and relaxed, the head is turned slowly to the right, as far as you can; relax. Turn to the left; relax.
5. **NECK (FORWARD):** Dig your chin into your chest; relax. (bringing the head back is not recommended—you could break your neck).
6. **MOUTH**: The mouth is opened as far as possible; relaxed. The lips are brought together or pursed as tightly as possible; relaxed.
7. **TONGUE (EXTENDED AND RETRACTED):** With mouth open, extend the tongue as far as possible; relax (let it sit in the bottom of your mouth). Bring it back in your throat as far as possible; relax.

8. **TONGUE (ROOF AND FLOOR):** Dig your tongue into the roof of your mouth; relax. Dig it into the bottom of your mouth; relax.
9. **EYES:** Open them as wide as possible (furrow your brow); relax. Close your eyes tightly (squint); relax. Make sure you completely relax the eyes, forehead, and nose after each of the tensing's---this is actually a toughly.
10. **BREATHING:** Take as deep a breath as possible—and then take a little more; let it out and breathe normally for 15 seconds. Let all the breath in your lungs out—and then a little more; inhale and breathe normally for 15 seconds.
11. **BACK:** With shoulders resting on the back of the chair, push your body forward so that your back is arched; relax. Be very careful with this one, or don't do it at all.
12. **BUTT:** Tense the butt tightly and raise pelvis slightly off chair; relax. Dig buttocks into chair; relax.
13. **THIGHS:** Extend legs and raise them about 6" off the floor or the foot rest—but don't tense the stomach relax. Dig your feet (heels) into the floor or foot rest; relax.
14. **CALVES AND FEET:** Point the toes (without raising the legs); relax. Point the feet up as far as possible (beware of cramps- if you get them or feel them coming on, shake them loose); relax.
15. **TOES:** With legs relaxed, dig your toes into the floor; relax. Bend the toes up as far as possible; relax.

BENEFITS:

- Reduces anxiety
- Returns heart rate to normal
- Reduction in aches and pains
- Reduction in effect of phobia
- Improve concentration
- Helps sports person fit

TERMINATION

End the session by again taking a few minutes to relax, deep breath and enjoy yourself. Open your eyes and do a few stretches. Wiggle your toes and fingers. You should feel refreshed!